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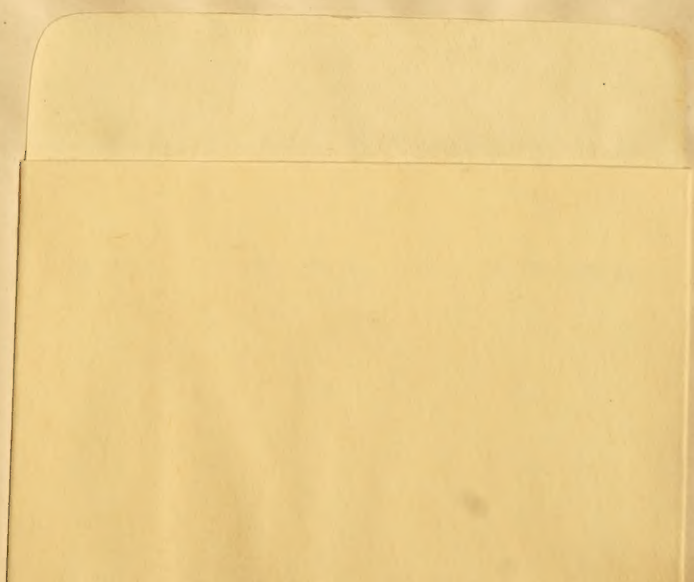
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GLEANINGS

IN BEE CULTURE

Devoted to Bees and Honey,

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. VIII.

Feb., 1880.

No. 2.

To Many Inquiring Friends.

PATENT HIVES—WHAT FRAME OR HIVE TO USE—SHALL WE USE AN EXTRACTOR, OR RAISE COMB HONEY?—ITALIANS—THE BEE MOTH—SPACE FOR COMBS.

While I earnestly try to maintain a broad "charity for all, and malice toward none," and while I do not wish to take upon myself the responsibility of dictating a course for others, I feel it a duty to discourage with all my might, both by precept and example, everything in the shape of patented bee hives, or patents on anything pertaining to bee-culture. On the other hand, I shall try to encourage every one to do all in his power to advance the common good of all. I do not believe the world "selfish and grasping, but have much confidence in the disposition of our people to desire to pay for everything they get, and to reward those who work for them disinterestedly, when they once get a clear understanding of the matter. If you have made a valuable invention or discovery, give it to the people rejoicing that you have been enabled to contribute your mite to the common good, and in seeing others happy, and sooner or later, you will surely have your reward. *Nothing that we manufacture, in the shape of hives or implements, is patented.*

I recommend the Langstroth frame for everybody, and for every purpose whatever, in preference to anything else, and I have pretty thoroughly experimented with all shapes and sizes. There may be other forms that will give just as good results, but I do not believe there are any better. For all general purposes, I advise the Simplicity hive holding ten of the above frames. The Simplicity (or Improved and Simplified Langstroth hive) is not patented, and never will be. The hive is made of $\frac{3}{4}$ lumber, and is 20 $\frac{1}{2}$ by 16 inches outside measure. The Langstroth frames as our gauges make them, are 17 $\frac{1}{2}$ by 9 $\frac{1}{4}$ outside measure. As the chaff hive is the same thing with an outer shell to hold the chaff that protects the hive from the winter's frosts, as well as summer's sun, no confusion can result from using both in the same apiary.

Produce just whichever pays best in your own market, and no one can tell so well as you yourself can by trying both; you can perhaps produce a nice article of extracted for about 15c., as cheaply as comb honey for 20c. You can produce thin, raw, unripened honey without any trouble for 10c. or less, but it will probably pay you best to give your customers an article as good, in every respect, as that found in the nicest comb honey.

The comparative advantages of the black, or common bees, and Italians, is a matter that no longer admits of discussion, and I must consider the very few individuals who write in favor of the former as belonging to that class of unfortunates who seem to delight in being contrary. If tons of honey are to be considered a proof, the matter has long ago been amicably settled in favor of the Italians.

The bee moth need hardly be mentioned now, unless it is to advise you to drive them out with Italians, for whenever they come into a neighborhood, the moths get out without any farther trouble or bother. This one feature alone, is enough to justify introducing Italian queens in place of the blacks.

The usual space allowed for brood combs is about 17-16 inches, but the matter is not at all important. They can be worked as closely as 1 $\frac{1}{4}$, or as far apart as 1 $\frac{1}{4}$. For surplus honey we would have about 2 inches space from centre to centre of the combs.

Now my friends, I beg to be allowed to make a request of you. Answering questions by letter, or by postal, is a grievous tax on my health, strength, time and money. Will you not, before asking, look over the above, our circular which we give away, besides paying postage, and our A B C Book for beginners. Nearly all the questions that are asked, are carefully and deliberately answered in the above, if you will only take the time to look them up. It takes hard brain labor to answer your questions faithfully, and when they come by the thousand, it takes all my time from the journal, and from those to whom it belongs, having paid me their money. Now please do not think me unkind, if your answers are brief, on a postal, and written by one of the clerks. It is the very best I can do.

Your busy friend, NOVICE.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. In fact, I hold myself responsible for every advertisement on these pages.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion. Discounts will be made as follows:

- On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions, 20 per cent.
On 50 lines (½ column) and upward 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, 25 per cent.
On 100 lines (whole column) and upward, 1 insertion, 10 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, 33½ per cent.
On 200 lines (whole page) 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions, 40 per cent.
A. I. ROOT.

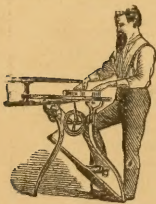
\$1.50 per YEAR; CLUBS of 5 or More \$1.00.

Send Ten Cents for a Sample Copy of

The American Bee Journal

The Oldest, Largest and Best Bee Paper.

THOMAS G. NEWMAN & SON, CHICAGO.



BARNES' PATENT FOOT POWER MACHINERY!
CIRCULAR and SCROLL SAWS. Hand, Circular Rip Saws for heavy and light ripping. Lathes, &c., &c. These machines are especially adapted to **Hive Making**. It will pay every bee-keeper to send for our 64 page Catalogue. **Machines sent on Trial.**
W. F. & JOHN BARNES, Rockford, Winnebago Co., Ill.

Comb Foundation Machines

\$15.00 TO \$100.00.

SAMPLES OF FOUNDATION WITH OUR ONE POUND SECTION BOX BY MAIL FOR FIVE CENTS.

For illustrations see our Illustrated Catalogue of Apian Implements and Supplies, mailed on application.
A. I. ROOT, Medina, Ohio.

Am. Silver Watches

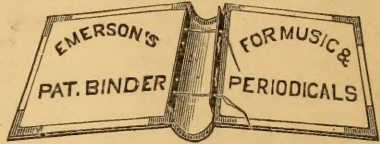
For \$9.50

In all my experience in the Watch and Jewelry Business, I have never before seen a good Silver Watch for the low price of \$9.50. I have just succeeded in getting, of the American Watch Co., a good strong

SILVER WATCH,
ALL REGULATED, AND IN

Running Order,

That I will mail to any address for the above price; and if it does not please you, you may return it within 10 days, and get your money. Or I will send you the Watch, for 20 subscribers, at \$1.00 each. You can have either hunting or open face, and such a Watch, for a present, ought to make any boy (or man either) happy.
A. I. ROOT, Medina, O.



You can not look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me, what a bother—I must have last month's Journal and it is no where to be found." Put each No. in the Emerson Binder as soon as it comes, and you can sit down happy, any time you wish to find anything you may have previously seen even though it were months ago.

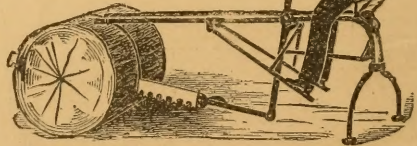
Binders for GLEANINGS will hold them for one year, gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. II. Send in your orders.
A. I. ROOT, Medina, Ohio.

CLUBBING LIST.

We will send GLEANINGS—		
With The American Bee Journal	(\$1 50).....	\$2 25
" The Bee-Keeper's Magazine	(1 00).....	1 50
" The Bee-Keeper's Exchange..	(75 c.).....	1 40
All three of the above Journals.....		3 00
" Bee-Keeper's Instructor.....	(50 c.).....	1 30
" Bee-Keeper's Guide.....	(50 c.).....	1 30
" Western Honey Bee.....	(50 c.).....	1 30
All above (Bee Journals of America).....		4 25

With American Agriculturist	(\$1 50).....	2 25
" Prairie Farmer	(2 15).....	2 90
" Rural New Yorker	(2 50).....	3 25
" Scientific American	(3 20).....	3 90
" Fruit Recorder and Cottage Gardener	(1 00) 1 75	
[Above rates include all Postage.]		

Sawing off a Log,
Easy and Fast.



Our latest improved sawing machine cuts off a 2-foot log in 2 minutes. A **\$100 PRESENT** will be given to two men who can saw as much in the old way, as one man can with this machine. Circulars sent free.
W. GILES, 741 W. Lake St., Chicago, Ill.

A NEW SHOP,

BUT OLD HANDS.

James Forncrook & Co. have just fitted up a new Shop for the manufacture of Bee Hives, Honey Sections, etc. Material for the Standard Langstroth Hive, Cheaper than the cheapest. We will make a specialty of the "Boss" one-piece Sections, heretofore called the Lewis Section, this being our own invention. Send for Circular and Price List.

JAMES FORNCROOK & CO.,
Watertown, Wis.

SEED-TIME AND HARVEST,

The Latest, Cheapest, and Best.

A New Illustrated 24-page Magazine devoted to the cultivation and improvement of our American Gardens. Price only Fifty Cents per year, and each number contains as a supplement a packet of some New, Rare, or Novel Flower or Vegetable Seeds, which alone are worth more than the subscription price. One sample copy free. Address—
SEED-TIME AND HARVEST, La Plume, Lack'a Co., Pa.
12-3

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For description of the various articles, see our Twenty-First Edition Circular and Price List, mailed on application.

For directions *How to Make* all these various articles and implements, see A B C of Bee Culture.

This Price List to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of postage required.

To Canada, *merchandise* by mail is limited to 8½ oz., and nothing can be sent for less than 10 cents.

A B C of Bee Culture, Five Parts complete in one, paper cover.....		1 00
The same, neatly bound in cloth.....		1 25
Single Parts, in paper, each.....		25
15	Alighting Board, detachable (See A B C) \$	10
Alisike Clover. See seeds.		
Balances, spring, for suspended hive (60 lbs.)		8 00
Barrels for honey.....		2 50
" waxed and painted.....		3 50
Basket for broken combs to be hung in the Extractor.....		25
Basswood Trees for planting. See price list.		
Bees, per colony, from \$7 to \$16. See price list.		
10	Bee-Hunting Box, with printed instructions	25
0	Binder, Emerson's, for GLEANINGS.....	50, 60, 75
10	Blocks, iron, for metal cornered frame making.....	15
Buckwheat. See seeds.		
10	Burlap for covering bees, 40 in. wide, per yd	10
Buzz-Saw, foot-power, complete.....		35 00
Buzz-Saws, extra, 85c, to \$3.50. See price list.		
60	Buzz-Saw mandrel and boxes complete for 6 inch saws (no saws included).....	5 00
The same for 7 and 8 in. saws (not mailable)		7 00
3	Cages for queens, provisioned (See price list)	10
30	" " per doz.....	1 00
20	Candy for bees, can be fed at any season, per lb.....	08 to 15
Cans for shipping extracted honey (See Honey), from 25c to \$2.00.		
0	Cards, queen registering, per doz.....	06
0	" " per 100.....	40
60	Chaff Cushions for wintering (See A B C) ..	30
9	" " without the chaff.....	20
Chaff Hive (See Hives).....		5 00
2	Cheese cloth, for strainers, per yard.....	06
Clamps for making section boxes.....		75
10	Clasps for transferring, package of 100.....	15
Climbers for Bee-Hunting.....		2 50
Comb Basket, made of tin, holds 5 frames, has hinged cover and pair of handles.....		1 50
Comb Foundation Machines complete \$15 to 100 00		
10	Comb Holder to put on edge of hive.....	25
Combs in metal cornered frames, complete		25
20	Corners, metal, per 100.....	50
20	" " top only, per 100.....	60
15	" " bottom, per 100.....	40
Corners, Machinery complete for making \$250 00		
Crate for shipping comb honey. See Hives.		
40	Division Boards of cloth and chaff.....	20
12	Duck, for covering frames and for feeders, 29 inches wide, per yd.....	20
15	Enameled Cloth, bees seldom bite or propolize it, per yard, 45 inches wide, 27c. By the piece (12 yards).....	25
Extractors, according to size of frame, \$6 50 to 10 00.		
" Inside and gearing, including Honey-gate.....		5 00
" Hoops to go around the top.....		50
" per doz.....		5 00
5	Feeder, Simplicity (See price list) 1 pint.....	05
7	Feeders, 1 quart, tin.....	10
4	The same, half size.....	05
25	The same, 6 qts, to be used in upper story	50
Feeders, open air.....		25
2	Files for small circular rip saws, new and valuable, 20c; per doz, by express.....	2 00
" The same, large size, double above prices.		
" 3 cornered, for cross-cut saws, 10c; doz Foundation. See Comb Foundation.		1 00
60	Fountain Pump, or Swarm Arrestor.....	8 50
5	Frames with sample Rabbet and Clasps....	10

18	Galvanized Iron Wire for grapevine trellises per lb. (about 100 feet).....	20
25	Gates for Extractors tinned for soldering..	50
Gauge for planing lumber, brass.....		50
" making hives (See Hives).....		50
50	Gearing for Extractor with supporting arm	1 25
Glass. See price list.		
0	GLEANINGS, per year.....	1 00
For prices of back vol's, see price list.		
Gloves. See Rubber Gloves.		
Grape Sugar for feeding bees. See price list.		
Grape vines for shading hives. See price list.		
Hammers and nails. See price list.		
Hives from 50c to \$6 25. See price list.		
Honey. See price list.		
" Plants. See seeds.		
0	Honey Knives, straight 7. or curved blade	1 00
" " ½ doz, by mail.....		4 00
" " ½ doz by Express.....		3 70
Jars for shipping extracted honey. See Honey.		
Labels for honey, from 25 to 50c per 100; for particulars see price list.		
Lamp Nursery, for hatching queen cells....		5 00
0	Larvæ, for queen rearing, from June to Sept.....	25
15	Leather for smoker bellows, per side.....	50
0	Lithograph of the Hexagonal Apiary.....	25
0	Magnifying Glass, pocket.....	30
0	" Double lens, brass, on three feet.....	75
0	Medley of Bee-Keeper's Photo's, 150 photo's	1 00
12	Microscope, Compound, in Mahogany box	2 50
0	Prepared objects for above, such as bee's wing, sting, eye, foot, &c., each	25
7	Muslin, Indian head, for quilts and cushions, pretty stout, but not good as duck, per yard.....	10
Nails. See Hammers and nails.		
10	Opera Glasses for Bee-Hunting.....	5 00
18	Paraffine, for waxing barrels, per lb.....	20
Photo of House Apiary and improvements		25
Planes and Planers. See price list.		
15	Pruning saws for taking down swarms, 75 and 85	
0	Queens, 25c to \$6 00. See price list.	
1	Rabbits, metal, per foot.....	02
0	Rubber Gloves, \$1.50 and \$1.75. See price list.	
0	Rubber Stamps, \$1.50 to 3.00. See price list.	
0	Rules (See Pocket Rules) 12 and 17c.	
Salicylic acid, for foul brood, per oz.....		50
10	Saw Set for Circular Saws.....	75
Saws. See Circular Saws.		
Scales for weighing honey, etc. See price list.		
0	Scissors, for clipping queen's wings.....	40
0	Screw Drivers, all metal (and wrench combined) 4½ inch, 10c; 5 inch, 15c.	
6	Section Boxes, fancy, hearts, stars, crosses, &c., each.....	05
Section Honey Box, a sample with strip of fdn. and printed instructions.....		05
Section Boxes in the flat by the quantity, \$6 00 per thousand and upwards, according to size; for particulars, see price list.		
Case of 3 section boxes, showing the way in which the separators are used, suitable for any kind of hive (See price list)		08

SEEDS OF HONEY PLANTS.

18	Seed, Alsike Clover, raised near us, per lb.....	30
18	" Carnip, good seed, per oz. 10c; per lb.	1 00
0	" Chinese Mustard, per oz.....	10
18	" Mellilot, or Sweet Clover, per lb.....	30
18	" White Dutch Clover, per lb.....	30
18	" Motherwort, per oz. 10c; per lb.....	1 00
18	" Mignonette, per lb. (20c per oz).....	1 40
18	" Simpson Honey Plant, per oz.....	50
18	" Silver Hull Buckwheat, per lb.....	10
" " peck, by Express		60
" Common " per peck.....		50
18	" Summer Rape. Sow in June and	
" July, per lb.....		15
18	" Spider plant, per oz.....	50
A small package of any of the above seeds will be sent for 5 cents.		
Separators, tin, for section boxes. See Section Boxes.		
5	Sheets of Enameled Cloth to keep the bees from soiling or eating the cushions....	10
Shipping Cases for 48 section frames of honey.....		50
The same for 24 sections.....		30
(This size can be sent by mail in the flat, for 75c.)		
1	Slate Tablets to hang on hives.....	01

SMOKERS.

1	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's, to be held in the mouth	25
	" Bingham's \$1 00; 1 50;	1 75
25	" OUR OWN, see illustration in price list	75
00	Soldering Implements.....	1 00
	Swarming Box.....	75
2	Tacks, tinned, per paper, (three sizes).....	05
	For larger quantities see Hammers and nails.	
5	Thermometers.....	20
10	Transferring clasps, package of 100.....	15
	Tin, see price list.	75
0	Veils, Bee, with face of Brussels net, (silk)	50
	The same, all of grenadine (almost as good)	
	Veils, material for, grenadine, much stronger than tarlatan, 21 inches in width, per yard.....	20
	Brussels Net, for face of veil, 29 inches in width, per yard.....	1 50
	Wax Extractor.....	3 00
	Copper bottomed boiler for above.....	1 00
5	Wire cloth, for Extractors, tinned, per square foot.....	10
2	Wire cloth, for queen cages.....	10
	Above is tinned, and meshes are 5 and 18 to the inch respectively.....	
3	Wire cloth, painted, for shipping bees, 14 mesh to the inch, per square foot.....	05
	Wire for grape vine trellises. See Galvanized iron wire.....	

All goods delivered on board the cars here at prices named. A. I. ROOT, Medina, Ohio.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent before July 1st. If wanted sooner, see rates in price list.

*E. W. Hale, Wirt C. H. W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-3tf
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	1tf
*J. Oatman & Sons, Dundee, Kane Co., Ill.	2-1
Miller & Hollam, Kewaskum, Wash Co., Wis.	4-4
*J. T. Wilson, Mortonville, Woodford Co. Ky	4-4
J. L. Bowers, Berryville, Clarke Co., Va.	1-4
*King & White, New London, O.	8tf
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*J. R. Landes, Albion, Ashland Co., O.	1tf-d
*J. E. Walcher, Millersville, Christian Co., Ills.	1-6

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
H. Scovell, Columbus, Cherokee Co., Kans.	4-3
P. L. Viallon, Bayou Goula, Iberville Par., La.	1tf
Milo S. West, Pontiac, Oakland Co., Mich.	1-6
A. A. Fradenburg, Port Washington, Tus., Co., O.	1-6
Geo. Clark, Blissfield, Len., Co., Mich.	1-2

PURDY'S RECORDER

Best paper on fruit and flowers. Specimen free. Speaks for itself. Address PURDY, of Palmyra, N. Y.

I SHALL continue to keep on hand, and offer at reasonable rates, a full variety of Bee-Keepers' Supplies; such as

Muth's All Metal Honey Extractors, Uncapping Knives, Wax Extractors, etc. Also

Langstroth's Bee Hives, and any Parts thereof, 1 & 2 lb. Square Glass Honey Jars, with Tin Foil Caps and Labels, [Corks, ½ lb. Glass Tumblers, Fruit Jars, etc.

Comb Foundation, Bee Veils, Gloves, Straw Mats, Alsike Clover, and a variety of Garden and Field Seeds, etc., etc. For further particulars, address

CHAS. F. MUTH,
976 and 978 Central Ave.,
Cincinnati, O.

SEED-TIME AND HARVEST, The Latest, Cheapest, and Best.

A New Illustrated 24-page Magazine devoted to the cultivation and improvement of our American Gardens. Price only Fifty Cents per year, and each number contains as a supplement a packet of some New Rare, or Novel Flower or Vegetable Seeds, which alone are worth more than the subscription price. One sample copy free. Address—SEED-TIME AND HARVEST, La Plume, Lack'a Co., Pa. 12-3

Sections! Sections!

Before ordering elsewhere, send us a 3-cent stamp for a sample of our beautiful, snow-white, poplar Sections, dovetailed or to nail. These are the nicest and cheapest in the world. (This none will deny).

HIVES AND OTHER SUPPLIES

made to order very cheap. Illustrated circulars free.

A. E. MANUM,
12-2 Bristol, Addison Co., Vt.

IMPORTED QUEENS!

In April, - - - - -	11 frames in Gold.
May and June, - - - - -	10 " "
July and August, - - - - -	9 " "
September and October, - - - - -	7 " "

Queens which die in transit will be replaced only if sent back in a letter.

CHARLES BIANCONCINI & CO.,
Bologna, Italy.

Before Purchasing

Supplies for your Apiary, send a postal card with your name, and (if you will do us the kindness) those of bee-keeping neighbors, for our Illustrated Catalogue of Apiarian Supplies, Sample Sectional Box, and **Comb Foundation**. We wish to present these to every reader of this journal, and hence offer them *Free*. Please send your name at once. Special attention given to rearing **Italian Queens and Bees**. The highest price paid for Beeswax.

J. C. & H. P. SAYLES,
1tf Hartford, Washington Co., Wis.

ITALIAN BEES FOR 1880.

I will sell 3 frame nuclei, with tested queen, before June 20, for \$4.00; after June 20, \$3.50; after August 1, \$3.00. These nuclei will be well stocked with brood and bees, and contain young, profitable queens. *Cyprian Queens*.—I believe myself, so far, the only one in the U. S. who has these valuable and beautiful bees in purity. Descriptive Circulars sent free.

JULIUS HOFFMAN,
1-3 Fort Plain, Montgomery Co., N. Y.

QUINBY'S NEW BEE-KEEPING.

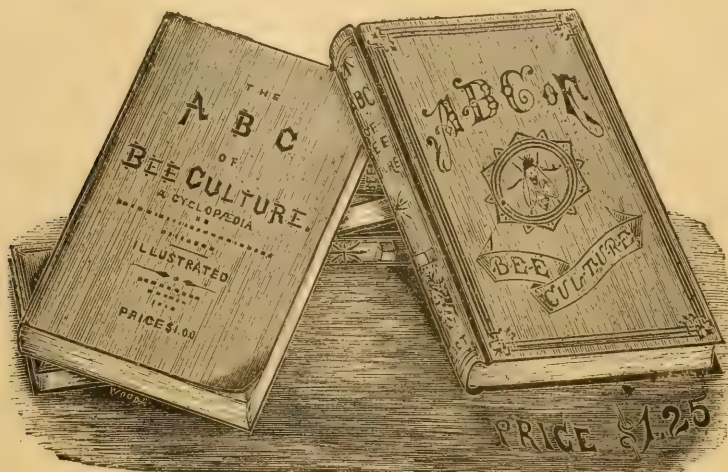
The latest, most practical, and most fully illustrated work published. Price, by mail, \$1.50.

SMOKERS, \$1.50, \$1.75, by mail, and warranted best in market.

For circular, giving full index of book and illustration of Smoker, send to

1d L. C. ROOT,
Mohawk, N. Y.

THE A B C of BEE CULTURE.



FOR several years, it has been my ambition to be able to write a book on bee culture, so clear and plain that not only any boy or girl, but even an old man or woman, with the book and a hive of bees, could learn modern bee culture, and make a fair, paying business, *even the first season*. This is a great undertaking, I grant; and it will require some one with far greater wisdom than mine, to do it the first time trying. After watching beginners, and answering their questions almost constantly, for years, I came to the conclusion, that the only way to do it was to "cut and try," as carpenters say, when they can't get the exact dimensions of the article they wish to make.

To cut and try on the A B C book, I have invested over \$2,000 in type, chases, etc., sufficient to keep my whole book standing constantly in type, that can be changed at a moment's notice. The books are printed only as fast as wanted, and just as soon as I see I have omitted anything, or have made any mistake, the correction is made before any more books are sent out. To show you how it works, and how it succeeds, I will give you an illustration.

A beginner writes to know if it is of any use to keep a queen, after she is eighteen days old and does not lay. Now I know very well that a queen should lay when from ten days to two weeks old; and also, that they will sometimes not commence until they are three weeks old, and then make good queens. Now, although I directed that they should be tossed up in the air, to see if their wings were good, when they did not lay at two weeks of age, I did not say, if their wings proved to be good, how long we should keep them. If I could spare the time of the colony, I would keep a good looking queen that could fly well, until she is 25 days old; if crowded for a place to put cells, I would kill all that do not lay at 18 or 20 days old.

I have just put the above in the A B C, and that is just the way I am going to keep doing. You see, you beginners are, ultimately, to build up the book.

The book, as it is now, contains about 275 pages and about 175 engravings. It is furnished complete in one, or in 5 different parts. The contents and prices are as follows:

Part First, will tell you all about the latest improvements in securing and **Marketing Honey**, the new **1 lb. Section Honey Boxes**, making **Artificial Honey Comb**, **Candy for Bees**, **Bee Hunting**, **Artificial Swarming**, **Bee Moth**, &c., &c.

Part Second, tells all about **Hive Making**, **Diseases of Bees**, **Drones**, **How to Make an Extractor**, **Extracted Honey**, **Feeding and Feeders**, **Foul Brood**, etc, etc.

Part Third, tells all about **Honey Comb**, **Honey Dew**, **Hybrids**, **Italianizing**, **King Birds**, **The Locust Tree**, **Moving Bees**, **The Lamp Nursery**, **Mignonnette**, **Milkweed**, **Motherwort**, **Mustard**, **Nucleus**, **Pollen**, **Propolis**, and **Queens**.

Part Fourth tells all about **Rape**, **Raspberry**, **Ratan**, **Robbing**, **Rocky Mountain Bee Plant**, **Sage**, **Smokers**, including instructions for making with illustrations, **Soldering**, **Sourwood**, **Stings**, **Sumac**, **Spider Flower**, **Sunflower**, **Swarming**, **Teasel**, **Toads**, **Transferring**, and **Turnip**.

Part Fifth tells about **Uniting Bees**, **Veils**, **Ventilation**, **Vinegar**, **Wax**, **Water for Bees**, **Whitewood**, and **Wintering**. It also includes a **Glossary of Terms and Abbreviations** used in *Bee Culture*.

All are Profusely Illustrated with Engravings.

Nothing Patented. Either one will be mailed for 25c; ½ doz., \$1.25; 1 doz., \$2.25; 40, \$6.00.

The five parts bound in one, in paper, mailed, for \$1.00. At wholesale, same price as GLEANINGS, with which it may be clubbed. One copy, \$1.00; three copies, \$2.50; five copies, \$3.75; ten copies, \$6.00.

The same neatly bound in cloth, with the covers neatly embellished in embossing and gold, one copy, \$1.25; three copies, \$3.25; five copies, \$5.00; ten copies, \$9.00. If ordered by freight or Express, the postage may be deducted, which will be 3c on each 25c book, 13c on the complete book in paper, and 16c each, on the complete book in cloth.

A. I. ROOT, Medina, O.

[These pages should be read only after reading the rest of the Journal, especially OUR HOMES.]

USEFUL ARTICLES FOR A LITTLE MONEY.

ONE OF MY JANUARY TALKS.

I BELIEVE I told you once before, my friends, that I generally got talkative about the first of the year, say January or February. I don't really know why it is; it can not be on account of a January thaw, for we have almost zero weather this morning. After I had put two more leaves in Our Homes, it seemed as if there ought to be two more leaves here in the fore part of my "Bee book," or it would not balance; and I want these two leaves to contain something useful,—something useful to you, as well as myself. You have noticed that, for some time past, I have had much to say about money, especially about money so far as it would contribute to our happiness and well being. There has been, as it were, a great burden on my mind in regard to furnishing those who want to earn their money, something to do. Boys and girls are coming to me, and writing to me, for something to do. Many would gladly work for the smallest wages, if they could have some work they could do at home, and thus be employed, and out of mischief and danger, while they earned the money to pay for their daily bread and clothing. My wife told me of an old lady who would be glad to get carpet rags to sew, if she only made ten cents a day at it. I certainly would rather have something to do at ten cents a day, than to be idle, but very likely some of you wouldn't. I should want the work to be something that was very pleasant and nice, perhaps, but—come to think of it, I guess I will take another start.

A PENNY SAVED IS A PENNY EARNED,

Franklin said, and where one has good wages, say a dollar a day, or \$5.00 if you like, it is a very important matter to save time, as well as to save pennies. I have known folks to come into a store (I used to keep store you know), and if they wanted a pound of honey, it would take the best part of a half hour to go through all the preliminaries and ceremonies. Their movements were so slow, and many of them so utterly unnecessary, it seemed to me as if they would not find the day long enough to buy their family groceries, if somebody should furnish the money free. When I used to go to the post office (I never go now, a boy does it) I would get so tired with the people that stood in the way and moved so slowly, that I felt just like giving them a good shaking; good naturedly, of course. Well, since I have come to hire many hands, these slow movements have cost me right out, in cash, hundreds of dollars. What shall we do to save this great waste of both time and money? Often we cannot do a great deal; but we can keep an eye on these leaks and wastes, and by bringing the right forces to bear, we can sometimes accomplish much. Setting hands to work by the piece will often accomplish wonders in making them quick, as well as teaching them the value of time. In our home here we

have made great progress of late, in this way, and hands that used to be ready to stop and look at everything that came along have got to be so careful of their minutes that they even argue about who shall stop long enough to replenish the fire. You see they are assuming responsibility.

It takes a good deal of time to make change, and I often stop to make purchases when I happen to have the exact coin that will pay for the article, whereas, if I was obliged to wait for the store keeper's slow movements in changing a bill, I would rather go without it. It takes time to keep accounts, and to settle up, at the end of—when? This is one great reason for paying cash down. In fact, it is one of the fine arts, to so arrange one's business, that he can sell a large amount of goods in a short time; to sell them so that slow circumlocutions may not eat up all the profits. I can bring this idea before you so that you will get it fully, by remarking that some of our friends say they would rather sell a barrel of honey, all in a lump for 10c. per pound, than to retail it for 20c. Some of you, doubtless, who have a natural tact for retailing, might sell a barrel of honey and make wages at it, at a profit of 2c. per pound; but to do it, there must not be many mistakes and blunders, or much daubing, or any kind of false motions that waste time or honey. Grocers sometimes sell sugar at a profit of one half cent per pound; but to do it, they have to learn to be spry and active, they do not have their sugar barrel at one end of the store and their scales at the other, nor do they spill very much on the counter or on the floor.

Well, the world has discovered how much it costs to sell things at retail, and how few there are who can or will do it economically, and this is why there is such a broad difference between the price that consumers pay, and the price that manufactures get. I will illustrate it. The one foot pocket rule which I sell you now for 10c., I used to sell when I was a retail dealer, at 25c. they then cost me \$2.00 per doz. By buying 12 gross at a time, I now get them for 1.00 per doz., or 8 $\frac{1}{2}$ c. each. I wanted to furnish them to you, for an even 10c., and to be sure the time occupied by the clerks did not cost more than the 1 $\frac{1}{2}$ c., I went over the ground carefully. I found that the clerk who mails them was in the habit of wrapping up each one, as she got an order for it. To do this, she had first to get the rule from a distant room; then she got a pair of shears, cut a piece of paper the right size, went somewhere else after twine, tied it up, put away her things, went to another drawer for the postage stamp. (12c. by mail you know) and then she was ready to sit down at her desk and address it.

I told them I would start a better way, and directed that a half gross of rules be tied up at once. When I came round again, they were still cutting out the papers one at a time with the scissors. I directed that a large pile of papers should be cut just right, at the large paper cutter in the next room, where they trim the A B C's. Then I found that they wound the twine a great many times around their knives and rules, before tying them. This was a waste of both twine and time. After the half gross was done, they were all taken to the

stamp drawer, and all stamped ready for the post-office; then they were placed in a drawer right under the elbow of the clerk who mails the letters. In the former way, it might keep a clerk nearly an hour to fill a half-dozen orders for rules or similar articles; in the latter way, she could put up nearly 100, aside from the work of addressing the packages.

Again; sewing-machine screw-drivers, nice ones, sell for about a dime, usually. It occurred to me, that I might furnish them to you for about 5 c., probably, and so I wrote in regard to them. Here is the letter of reply, concerning both rules and screw-drivers:

In reply to yours of the 22d inst., we have to say that under the circumstances, we will accept your order, if sent at once, for twelve gross of rules, No. 69, at \$12.00 per gross, net cash, and allow you to settle for the last lot sent you at the same rate.

Terms, 30 days, or 2 per cent discount for spot cash. Sewing-machine screw-drivers, sample by mail, \$2.50 per gross, net, in bulk, in lots of not less than 25 gross. STANLEY RULE & LEVEL CO.
New Britain, Conn., Dec. 25, 1879.

Twenty-five gross (3,600) is a good many to buy all at one time, but if it happened to be some article you all wanted me to get for you, it would not be any too many after all; and then, just think of the price—*only one and three-fourths of a cent each*. Does it seem possible, that anybody could make a nice, tempered-steel screw-driver, with a varnished, beech handle, and a nicely fitting, brass ferule, all well made, for any such ridiculous price? Well, this is the way I purchased many of the premiums last month, that doubtless surprised you by their beauty and goodness for so little money. The opportunity of purchasing thus, God seems to have thrown into my hands. It is because there are so many of you, and because you have so much confidence in purchasing anything I recommend. While I thank you for this confidence, I feel now as I have many times, afraid I do not deserve it, and that I may be tempted to take advantage of it, and be more anxious to put money into my own pocket, than to put it into yours. I pray God to-night, that I may always feel as I do now, more pleasure in handing you some nice article very low, than in putting into my pocket the share of the transaction that falls to me. I have debated long and earnestly as to what profit I ought to charge you for these things that so many of you want. I am perfectly willing you should know what all of these things cost me,—at least, I am now, though self fights hard against it sometimes, for I have a sort of fear that you will not consider the many trials and losses I have in doing so large a business. Once in a while, an article is lost in the mails, and then again some brother is dissatisfied, in spite of all we can do, and it costs to return the things; sometimes the money is lost, and I often stand half of it; troubles, trials, and delays occur almost all the time in this large building, and I often wonder if God really meant it to be presided over, by such a selfish, cross, unreasonable, inconsistent chap as I am. Then when I read your kind letters, and your warm expressions of friendship for the words God has enabled me to speak through the Home Papers, I thank God and thank you too, for so kindly overlooking these mistakes and blunders. I can

trust God, and I can trust you, my friends; and I do not believe a single one of you would think unkindly of me, should I tell you what every article that I offer to you for sale costs me. I want to help you, if I can, in buying these little necessities of life, but I am more anxious that God will enable me to point out a way by which you may help one another. Most of you have spare time, during the winter, and many of you have things to sell. Many of you, I am sure, could make things during these winter evenings, and perhaps we shall find work for the girls as well as the boys. Things that one makes, the others will very likely want; and, as there are among you the representatives of almost every trade and profession known, I think we shall find a great many ways in which we can help each other.

There are some difficulties in the way, but God will help us to surmount them. The one that I fear most is that of quarreling and dissatisfaction. There will be selfishness, but if we make up our minds to that, and be prepared to put up with it, there need be little quarreling. If we trust in God, we shall have little trouble in that way.

The transportation, on many things, will be rather an obstacle, but perhaps we can surmount that. The object I have in view is one that has been running through all my talks in this journal, and especially in the Home Papers, as you may perhaps have noticed, and it is threefold; to furnish employment to those who have none, or not enough; to enable you to save as much as possible on necessary purchases; and to induce you to trust in God, and thereby learn to love your fellow-men.

There will be at least three classes of us,—producers or manufacturers, dealers or those who buy and sell principally, and consumers or purchasers. As many of you as choose can take up the first and second, and we hope to be able to include, eventually, all mankind in the third.

To make all transactions as plain and simple as may be, and to save time, expense, and details, I would have all articles as far as possible put up in 5, 10, 25, and 50 c. packages. Four counters nicely arranged will be needed, and, to give the business a trial, you can locate these in any room in your house, fronting the street. The advantage of having it at your home, is that your wife or almost any child, can "tend store," almost as well as any body. When the business demands it, if it ever does, you can put up a cheap and attractive structure, with a glass front, adjoining the street.

The four counters may be dry-goods boxes, tastily covered with paper, unless you choose to get up something better. The top of the counter is to be divided into apartments, with strips of wood about an inch high, making a little box for each article offered for sale. In the bottom of each box, is printed in plain, large letters, the name of the article belonging there, so that it may always be easily and properly replaced after being taken up, and that another may be put in its place, the minute it is sold. If you have customers that are light fingered, you can tell at a glance, when any box is vacant. The labor of purchasing consists simply, in putting the right

coin in the box, and taking the article. In fact, if you choose, you can go into one of these stores pick out a five cent basket, and fill it with five cent articles, leaving the coin in the box in place of each, without the store keeper's touching a thing. After you are gone, he gathers up his coins, and replenishes his counters. At the very low prices goods are sold, there can be no trusting, and no deviation in prices, so the time ordinarily spent in bartering and dickering is saved. If you have got a poor article on your counters, put it into the next grade lower, and if it gets to the five cent counter and won't sell then, give it away.

In the following table, I have discarded dozens and gross, and adopted tens and hundreds, that there may be no time wasted or mistakes made in figuring the cost. For an illustration: if an article costs 85c. for 10, point off one figure and you have the price of each right before your eye, 8½c. If the price is \$6.50 per hundred, move the decimal point two places to the left and the price is written out without a mistake 6c and 50-100, or 6½c. Of course, you only move the point in your mind.

You can hang out a sign if you like, and I would suggest for it, the words I have as the heading of this article,—"Useful Goods at Very Low Prices;" but I shall depend more for your success on your doing business with the fear of God in your heart, than on all the signs in the world. This honesty of heart will win a place for you in spite of all the opposition and competition the world can bring to bear, for it is a quality so rare in business, that it is sought for far and wide. Of course, you cannot sell tobacco or pipes or anything that is useless, to say nothing of being harmful. You may possibly make money by so doing, but you cannot get that happy contentment that the world is always trying to buy with money, but never gets for money alone.

By the way, in regard to pipes and cigar holders; I saw them offered as premiums by the *American Agriculturist*, and wrote them in regard to it. I received a reply from Orange Judd himself, thanking me for the solicitude I had expressed for the morals of their paper, and, after saying that I was right, he promised that they should never be offered in their columns again.

The very low prices at which these goods are sold, and the rapidity with which the business can be done, is to be their principal advertisement. I shall merely give an outline of the list this month and expect it to grow as new things present themselves. You are to make it grow, my friends. Any one of you who will furnish a better article than I offer, or the same thing at less figures, will be allowed a one line advertisement of it free. You are to send me a sample of the article by mail, and I will decide whether I think it sufficiently meritorious to deserve a place in the list. Some one must discriminate, and I hope you will not get cross if my opinion does not agree with yours.

I know the profits on some of the goods are very close, my friends; but, should you put the greater part of them on the counter, higher, they would be lower than your friends have generally been in the habit of paying. It is not your duty to sell any thing at less than cost.

USEFUL ARTICLES

THAT CAN BE SOLD FOR

FIVE CENTS EACH.

TERMS OF PAYMENT—Strictly Cash 1st Order.

All Prices Subject to Change without Notice

Postage on each			Price of	
			10	100
2	Awls, Scratch, Wood Handle.....	35	4	00
2	Awls, All Metal Handle.....	45	3	00
3	Awls, Brad, All Metal Handle, Assorted Sizes.....	45	4	00
Baskets to be sold for 5c., Wanted.				
1	Brushes, Paint, Paste, or Sash.....	35	3	00
4	Brooms, Whisk.....	45	4	25
12	Coal Shovels, Wrought Iron.....	48	1	75
5	Cups, Tin, 1 Pint.....	0	3	50
	Dippers, Tin.....	45	4	00
2	Dish Covers, Blue Wire Cloth.....	45	4	40
9	Dust Pans.....	45	4	25
3	Drawer Pulls.....	25	2	25
	Foot Scrapers.....	45	4	25
5	Funnels, ½ Pint.....	45	4	25
12	Garden Trowels.....	45	4	25
1	Gimlets, All Steel.....	40	3	50
2	Glass Cutters.....	44	4	75
3	Ink, Best Black, in Bottles.....	40	3	50
3	Kitchen Knives.....	35	3	00
3	Knives and Forks for Table Use (a Knife and a Fork Are Two).....	45	4	00
1	Knife, Pocket, 1 Blade, for Children.....	45	4	25
	Magnets, Horse Shoe.....	48	4	50
3	Mallets, Wood.....	45	4	25
5	Marking Gauges.....	45	4	25
3	Match Boxes.....	48	4	75
5	Melasses Cups, Tin, Nice for Honey.....	45	4	75
	Mucilage and Brush.....	45	4	00
	Nest Eggs.....	40	3	50
12	Oilers, Zinc, Neat, Pretty, and Just Right to Keep All the "Machinery" Well Oiled.....	48	4	50
1	Pencils, Lead, The Kind I Prefer (Am. Phonographic).....	45	4	00
2	Rules, 1 Foot, for School Children.....	45	4	00
2	Scissors.....	45	4	25
3	Scoops, Tin, for Getting Honey out of a barrel.....	45	4	00
2	Screw-drivers, Sewing Machine, Neat, Wood Handle.....	25	2	00
3	Screw-drivers, Metal Handle.....	45	4	00
6	Seeds, per Package.....	35	3	00
5	Soap, Good, and Good Sized Cakes.....	40	3	75
	Spoons, Table, Tinned Iron.....	38	3	00
	Tea, (Two for 5c.).....	20	1	75
	Stands, Silvered Wire, for Hot Dishes.....	5	4	00
	Stove Polish.....	35	3	00
	Tin Plates, for Honey, Set of 3, Assorted.....	40	3	50
2	Tacks, Tinned, 3 sizes of papers.....	35	3	00
6	Tack Hammer, Coppered Iron Handle.....	40	3	50
4	Wood Handles.....	35	3	00
5	Tin Pails, 1 Pint, no covers.....	45	4	5
1	Tooth Brushes.....	45	4	25
2	Views for Stereoscopes.....	45	4	25
	Wax, all, for Work Box, in Shape of Egg, Pear, Plum, etc.....	48	4	75
	Whet-stones, Small, Wanted.....			
	Wire Nails, per Paper.....	35	3	00
1	Yard-stick.....	2	4	00

USEFUL ARTICLES

THAT CAN BE SOLD FOR

TEN CENTS EACH.

2	Awls, Scratch, Tempered Steel, Iron Handle.....	75	7	00
5	Balances, Spring, 24lb., Accurate.....	90	8	75
8	Brooms, Whisk, Wood Handles.....	85	8	00
5	Butcher Knives, Good Steel and Tempered.....	90	8	75
3	Chamois Skins for Cleaning Cutl'y, &c.....	85	8	00
5	Chisels with Handles.....	80	7	75

2	Coin Holders, Hold Just the Coins for These Counters.....	85	8	25
10	Dust Pans, Japanned.....	85	8	00
1	Files for Cross Cut Saws and Hand Saws.....	70	6	00
5	Funnel, Quart.....	85	8	00
8	Garden Tr-wels, Steel.....	90	8	75
2	Glass Cutter, with Knife Sharpener and Can Opener.....	95	9	00
4	Hammers Small for Nails.....	65	6	00
5	" Magnetic.....	90	8	50
10	Mallets, Wood.....	85	8	00
10	Molasses Cups, Japanned, Nice for Honey.....	95	9	00
5	Oilers, Zinc, Spring Bottom.....	85	8	00
	Oil Stones or Whet Stones.....	85	8	00
4	Pocket Levels, to be Put on a Square, Knives, 1 Blade, American, Good.....	95	9	00
6	Quart Measure, Tin.....	95	9	00
1	Rule, 1 Foot, Box-wood, Pocket.....	95	9	00
2	Scissors.....	75	7	00
10	Scoops, Tin.....	75	7	00
2	Screw Drivers Wood Handles, Strong and Nice, 7½ inches Long.....	90	8	50
4	Shears, 7 Inches.....	85	8	00
	Seives, Wood Frame, Wire, Round.....	95	9	00
	Soap, Best Kind I know of.....	65	6	00
3	Soap Stand, Silver-d Wire.....	90	8	50
	Spring Balance, see Balance.....			
3	Steels for Sharpening Knives.....	85	8	00
3	Thermometers.....	97	9	50
5	Tin pail, with Cover, 1 Pint.....	97	9	50
6	" " " 1 Quart.....	97	9	50
1	Tooth Brushes, Good.....	85	8	00
10	Twine, Strong Flax, ½ lb. Balls.....	95	9	00
10	Walters Plain.....	95	9	00
6	Wash Basins.....	95	9	00
	Whet stones.....	85	8	00

USEFUL ARTICLES

THAT CAN BE SOLD FOR

Twenty-Five Cents.

	Braces, Carpenters.....	2	10	20	00
	Coal Shovels.....	1	40	12	30
	Compasses, Carpenters.....	2	10	20	00
	Dinner Bells.....	2	00	18	00
	Dinner Pails.....	2	45	24	00
22	Hammers, Adze E., Polished, Carpenters, Excellent for the Money.....	1	50	14	00
8	Hammers, Metal Handle inlaid with Walnut.....	1	60	15	00
	Hatchets, Painted Red.....	2	10	20	00
0	Knives, 2 Blades, Fine Quality, Am. Lamps, Brass, Night.....	1	90	18	00
	Oil Cans, 1 Quart.....	2	25	22	00
	" " 2.....	1	60	15	00
3	" " 2.....	1	90	18	00
0	Paper Weights, Glass, Very Pretty.....	1	80	17	00
2	Planes, All Metal.....	1	60	15	00
2	Pliers, Flat Nose.....	1	60	15	00
2	" Round Nose.....	1	90	18	00
2	Rules, 2 Foot, Pocket, Box-wood.....	1	25	12	00
7	Scissors, Fine Steel.....	2	10	20	00
	Screw Drivers, 1 Foot long, Fine, Wood Handles.....	1	90	18	00
6	Screw Drivers, All Metal, Hand Forged.....	1	90	18	00
6	Shears, Nickle Plated.....	2	00	19	00
10	Signs to be Hung in Door Yard, in Stock 3 Kinds, "Honey for Sale," "Bees and Queens for Sale" and "This Property for Sale".....	2	00	18	00
1	Silver Thimbles, Pure Coin.....	2	30	22	50
0	Thermometers, Best.....	1	50	14	00
10	Tin Pails, 2 Quart Japanned and Lettered.....	2	00	18	00
	Tin Pails, 4 Quart Plain.....	2	00	18	00
	Wrench, Coe's, Celebr'd Adjustable.....	2	40	23	00

USEFUL ARTICLES

THAT CAN BE SOLD FOR

FIFTY CENTS.

	Balances, Spring, With Dish, 24lb.....	1	00	35	00
	Braces, Carpenters, with Pat. Grip.....	4	65	45	00
	Hatchets, Good Steel.....	4	00	35	00
23	Planes, All Metal, Full Size.....	4	25	40	00
	Lanterns.....	4	50	44	00
10	Measuring Tapes, 50 Feet.....	4	25	40	00
10	Pruning Shears.....	4	50	44	00

	Saws, Hand, 18 in.	4 00	38 00
10	Shears, Fine Steel.....	4 00	38 00
	Shovels, for Boys.....	4 00	38 00
	“ “ Men.....	4 50	44 00
	Vises, Cast Iron, Wanted.		

Vises, Cast Iron, Wanted.

Now, my friends, if you wish a larger assortment of goods, send to King, Briggs & Co., 596 Broadway, New York. A great part of the goods I have mentioned is from their catalogue. Many of their goods, I do not consider useful, and others are so poorly made that I can do better elsewhere. What can you make or produce that the rest of us need?

Honey Column.

Under this head will be inserted free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away, to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25cts., we can furnish little boards to hang up in your door yard, with the words "Honey for Sale" neatly painted. If wanted by mail, 10c. extra for postage. Boards saying "Bees and Queens for Sale," same price.

I WILL sell Extracted Honey at 10c. per lb. by the bbl. (Barrel \$1.00) delivered at depot here.

J. M. MARVIN.

St. Charles, Kane Co., Ill., Dec. 26, 1879.

Wanted.—About 200 or 300 lb. of No. 1, extracted honey; also comb honey. I would prefer to buy of some one near me on account of freight charges.

JOEL KESSLER.

Ypsilanti, Washtenaw Co., Mich., Dec. 17, 79.

Wanted.—A few barrels of light Extracted Honey at fair prices.

D. S. GIVEN.

Hoopeston, Vermillion Co., Ill., Nov. 27, 79.

Why don't you tell the truth about the Chicago market? You quote honey 10 to 12c., when if you double that you will be nearer the truth. The market in Chicago is probably as good now as in New York or St. Louis, and commission men are selling best grades of honey at 20 to 22c. per pound.

Marengo, Ill., Dec. 18, 1879. C. C. MILLER.

Beg pardon, friend M. Our market reports for Dec. were allowed to go out without revising; I have "scolded" all around about it, and we are all going to do better now.

CITY MARKETS.

CHICAGO.—Honey—Choice, in single comb boxes, 16@18c; with more than one comb in a box, 2c. per lb. less. Extracted, 8@10c.

Bees-wax.—Choice, yellow, 20@22c. Darker grades, 12½@15c. Reported by Ed. of Am. Bee Journal, Dec. 22, 1879.

CINCINNATI.—Honey—There is no change in prices of extracted honey; Market quiet. Comb-honey scarce. We are selling at 15@20c. per lb., in the jobbing way.

CHAS. F. MUTH.

Cincinnati, Dec. 20, 1879.

ST. LOUIS.—Honey—Is in good demand, for Choice Comb, at 18c. to 20c.; darker grades are taken at 2c. to 3c. less. Extracted, in only moderate demand; but few buyers, only in 5 to 10 gal. casks, at 10c. to 12c. The market remains bare of Choice Comb.

Bees-wax.—In good demand, at 21c. to 22c.

St. Louis, Dec. 19, 1879. R. C. GREER & Co.

NEW YORK.—Honey—We are quoting comb honey as follows: Best white, small neat packages, 19@21c.; Fair, ditto, 16@18c.; Dark, ditto, 13@15c. Large boxes, about c. under above prices.

The market for Extracted Honey is more unsettled, the supply being more short. We are paying from 9 to 11c. in large lots; small packages, in a retail way, bring more.

Bees-wax.—Western, 24c.; southern, 25c.

Should you know of any lots of Extracted Honey, let us know.

A. Y. THURBER.

New York, Dec. 23, 1879.

Contents of This Number.

Notes from the Banner Apiary. No. 2.....	7
Queens' Voices, and Talking Queens.....	7
Friend Simpson's Story; Water for Bees in Winter	8
A Printing-Office that will Print in Colors, for only 50 Cents.....	10
That New Match-Box for any Smoker.....	11
Adam Grimm; His Earlier Days in Bee Culture.....	11
Drones in Worker Comb; Natural vs. Artificial Queens, and Chaff Packing for Winter.....	11
Bees and Grapes.....	12
Queen - Rearing - How Doolittle Raises His Queens; Two Queens in a Hive.....	12
The New Sugar Cane - The Early Amber.....	13
A Cheaper Division Board; Remarks in Regard to Division Boards.....	15
Why did They Per-ist in Swarming Out?.....	16
Will Requeening in the Fall Prevent "Dwindling"?.....	16
From Germany: Another Relation of the Simpson Honey Plant.....	17
The New Grape-Sugar Bee-Candy; I am Not the Original Discoverer; Keeping Queens in Winter in a Cage.....	17
Advantages of a Hilly or Mountainous District for an Apiary.....	18
Sunflowers for Shade, and Odds and Ends; Condensation of Water in Unprotected Hives; the Clover Experiment.....	18
The Honey that Pleased Queen Victoria so Well; the 5-inch Fdn. Mills; Fdn. Starters for Comb Honey.....	19
Balling the Queen; Wintering Bees.....	19
Spring Dwindling - Fradenburg's Plan for its Prevention.....	22
Scotland - Bees and Bee-Keeping in 1879.....	22
California Sage as a Honey Plant.....	34
The Spider Plant and Simpson Honey Plant - All I Know about Their Cultivation.....	34
A Simplicity Chaff Hive.....	45
Tinware for the Honey Business.....	46
A Miter-Box for those who Make Hives by Hand.....	46
THE SMILERY.....	14
BEE BOTANY AND ENTOMOLOGY.	
A Big Bumble-Bee - Mallophora Bomboides; Lophanthus Scrophularifolius and Scrophularia Nodosa - a Correction.....	14
HUMBUGS AND SWINDLES.....	20
THE GROWLERY.....	21
LADIES' DEPARTMENT.	
Color for Shipping-Crates.....	21
BLASTED HOPES.	
In the Shade or in the Sun for Winter; "Blessed Bees.".....	36
BOX-HIVE DEPARTMENT.....	36
OBITUARY.....	36
HEADS OF GRAIN.	
Length of Time that Eggs Remain in the Cell before Hatching; Cellar Wintering; Italians <i>versus</i> Blacks as Robbers; Benefits of Feeding during a Scarcity of Forage; Size and Shape of Starters; Vacant Corners in Sections of Honey.....	23
Unsealed Stores for Winter; Advantages of Always being with Your Bees; Dysentery in the Fall; Legs to Hives; Hopes not Blasted, after All; Good for an A B C Scholar; Answering Letters Myself.....	24
How I Introduced a Queen Dec. 1; Friend Alley and His Queens; Ants <i>versus</i> Queen Bees; Clover Seeds - Alsike, White Dutch, and Common White; Introducing by Special Methods.....	25
Another Hive Full of Honey, and didn't Know it; What to Do with a Barrel of Bees; Brimstoning Bees an Infringement of the Laws of Our Land; Bee-Houses; Alighting-Bushes and Trees; Roofs for Hives; a Clear Case of Bees Balling Their own Queen.....	26
When Does the Queen Cease Laying? Carpet for Covering the Frames; Three Remarkable Queens - How Old may a Queen be, and still become Fertilized? a Hybrid Queen that Grows Pure as She Grows Older; A Queen that Always Keeps a Laying Daughter with Her; An October swarm; Wintering Bees in a Cellar.....	27
Keeping Bees Without Trouble; Queen Dead	

at the Entrance; Feeding Up a September Colony; Will Italians Predominate, if Left to Themselves? Winter Passages, and how to Make Them Permanent; Scovell's Uncapping-Box.....	28
An Improvement in Wabbling-Saws; From 3 to 60, in Three Years; A Successful Decoy Hive; Introducing-Cage for Cold Weather; The Cartoons; Extractors with a Vertical Motion to the Crank; Combs of Sealed Honey for Feeding; Extracting in Nov.....	29
Still more about Two Queens in a Hive; Another A B C Scholar. Red-Clover Honey; A Small Swarm Coming out of a Heavy New Swarm; A Good Report from the Blacks; Juice of Sugar Cane for Bees.....	30

NOTES AND QUERIES.

Chaff Hives Ahead for Comb Honey; Choosing a Location before Swarming; Fdn. for Comb Honey; Dark Honey and Old Bees; How Near each other Hives may be Placed; Can Hives be too Warm? Brown Sugar for Winter Food; Setting Bees Near a Main Road; Getting Bees that are to be Brimstoned; Increasing from 2 to 25 in One Season; How to Contract the Entrance to half Hives for Winter; Extracting All Unsealed Honey for Winter.....	31
Letting Bees Starve; The Better Way; Will the Loss of a Sting Kill a Bee? One Good Report for 1879, any way; How to Prevent Propolis sticking to the Fingers; Putting Gummied Honey-Labels on Tin; United Stocks Quarreling; Feeding Sugar to Make Honey; Troubles - In Fall Feeding Out-doors, in Feeding at the Entrance, in Feeding in the Upper Story, in Uniting.....	32
Will Honey Freeze? How to Put the Tin Roof on a Chaff Hive; Localities for Bee-Keepers in Michigan; A Great Crop of Honey in Ontario, Ca.; Picture of the Apiary, and the Cartoon; Flat-Bottomed Fdn. Not a Success; Worker brood from a Queen that was Hatched without Wings; White Clover that Doesn't Yield Honey; Great Yield from the Asters.....	33
Poisoning Bees with Yeast; Honey-Dew from the Beech; Report from Iowa; Cellar Wintering in Iowa; Advertising Bees and Honey this Year; Age of Drones.....	34
HONEY COLUMN.....	45
CONVENTIONS.....	40
EDITORIALS.	
Snow over the Hives, and Ice in the Entrances; A Book on Taxidermy; That Red-Clover Queen; Having the Cushion Fit Closely in the Upper Story; Lucerne and Alfalfa; Our business for 1879; Giving Prizes and Premiums.....	35

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Vol. VIII.

JANUARY 1, 1880.

No. 1.

A. I. ROOT,
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NOTES FROM THE BANNER APIARY. NO. 2.

MY REPORT FOR '79.

LAST month, I gave you the results of my bee-keeping for '78, and I presume, if I should wait until next June before telling you what my profits were for '79, I should give some figures that the cold weather could not shrink; but I did so well last season that, "boy like," I can't wait any longer without telling of it.

I came through the winter with ten colonies; some of them were good, fair swarms, and some of them "just squeezed through." The spring was cold and backward, but I kept the bees well tucked up with chaff cushions, gave them only as many combs as they could cover, helped the weak colonies by occasionally giving them frames of brood, and, if any needed feeding, they were fed in the good old fashioned way of giving them full frames of sealed honey. When warm weather finally came, and brought with it the opening blossoms of the soft maple, willow, elm, hard maple, etc., how soon the bees began to "pick up," and the combs, brood, and bees had that bright, thrifty look that is seen only when honey is coming in.

The yield from fruit blossoms was very light, and just as I was beginning to wonder how the bees were to be kept busy until clover should blossom, the dandelions stepped in and gave them a regular "boost."

Right here, please allow me to say a few words about bees and dandelions. Before I commenced keeping bees, dandelions were very scarce; I remember it well, because whenever Mrs. H. used to send me out to pick dandelions for greens, I had to "scrimmage" all around, and perhaps get sent back three or four times, before I could find enough for a "mess;" but since I have been keeping bees, dandelions have increased in numbers each year, and last spring our door-yard, the road-side, and the adjoining fields, reminded me of the "starry heavens." The beauty of it was, that almost every bright, yellow "star" was "inhabited" by "Italians."

Enough honey was gathered from dandelions to keep brood rearing going on briskly, and to have some stored in the brood combs besides.

I had about 125 empty combs, from which I had extracted the honey the previous autumn, and then had them cleaned up by hanging them in Simplicity hives, and setting them over full swarms of bees. I examined the bees, every day or two, and whenever

I found a hive that was a little crowded, I put a frame of nice, dry, worker comb in the centre of the brood nest. Oh! isn't it just fun to build up swarms, when they once get started!

June 1st, I had ten, good, fair colonies. I now sold one swarm, purchased an imported queen (my old imported queen having died the previous autumn), and commenced preparations for queen rearing.

In the fore part of June, the bees began storing honey from Alsike clover, and upper stories filled with empty comb were given to nearly every swarm. The bees worked faithfully upon the Alsike, and I extracted about 300 lb. before the basswood harvest commenced. (I will tell you more about my Alsike clover, in a future article.) The yield from basswood was so good, that I extracted 700 lb. in two weeks, and then the honey harvest was over for '79, as buckwheat and fall bloom were almost total failures.

To keep brood rearing going on during August, September, and October, I fed nearly a barrel of grape sugar. I will give the particulars in another article.

From the 9 swarms that I had left the 1st of June, I raised and sold 193 queens, had 1,000 lb. of extracted honey, and increased the number of my colonies to 14. I have sold six swarms, so that at present I have only eight. I have kept an exact account with my bees, and, after paying all expenses, there is a profit of just \$200.00, if—*if I don't lose any bees this winter.*

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., Dec. 13, 1879.

Those who have written long articles to show that it does not pay to raise queens at the "ruinous prices" for which they have been offered would do well to ponder on the above very practical report from one who is but little more than an A B C scholar. One more point; does it not pay better to keep a few colonies of bees well cared for, rather than to make such haste to get up into the hundreds, and have them poorly cared for? Friend H. enjoys his work with his bees every month in the year, and it is because he is "faithful in the few things" God has given him to care for.

QUEEN'S VOICES AND TALKING QUEENS.

I FORGOT, when I sent for those queens, to request you to send one of Henderson's loud talking queens; however, I accomplished, to some extent, my wish. In introducing them, we tried different ways with success. With one, I took

four frames of young brood, just coming out, and placed them in the hive, drove the bees and queen to one side of the cage, slipped the wire off the other side, then placed it by the side of the brood, and watched the result. When three or four bees came forward and discovered the brood combs, they made rather a joyful demonstration, and, at this, "Zeep! Zeep!" went the queen, exactly as I wished her to do. Now, what was the result? The bees went right back at her call. I put it this way: when she heard those bees making such a fuss over the brood, she called, "Zeep," or, "Come back here; you are all right; I am here." Then they all came out in force, to explore. About that time, I shut the hive.

As I am deeply interested in studying their voices, I tried the same process with one that was very lively. She came out first, and started on the run up the frame, and when she reached the top shook her wings, and crowed somewhat after the fashion of a rooster, with a guttural voice, "There is room for me and all," and down the other side she went, out of sight. I had a wire cloth over the box and watched her for some time, but heard no "Zeep" from her. I was so disappointed, I shut her up for four days, then let the bees out. I knew she would come too, being such a romp. Out she came and started off to take an airing, but I stopped her flight, cut her wing, and put her back. She sobered down and went on with her business.

Can't you help me to some telephone, or microphone, or something to intensify the sound? Something which I can apply inside the hive, and be able to sit back four or five feet, leaving the bees in their normal condition, and hear all that is going on inside? that would just suit me. By the bye, I'll send you some of our pampas plumes, for a Christmas gift; so when they come, you will know them.

J. N. GILCHRIST.

Loma Apiary, Santa Barbara, Cal., Nov. 18, '79.

There is no trouble about arranging the microphone, friend G., but I fear your greatest trouble would be to find an interpreter to enable you to understand the meaning of all that was said inside of the hive. If you will have a hive so arranged that you can conveniently place your ear against its side, you will get a pretty clear idea of all of the talk inside. The queen, I believe, rarely says anything; like a good and faithful servant, she keeps steadily on with her business, unless something very extraordinary turns up, such as swarming, rearing new queens, or something of the kind.

You can hardly tell, friend G., how much pleasure the pampas plumes gave us. They are the admiration of the whole neighborhood. Tell us what we shall do to return the compliment.

FRIEND SIMPSON'S STORY.

SOMETHING ABOUT "WATER FOR BEES."

FRIEND ROOT:—I have a story to tell about wintering bees, and yet fear to tell it, on account of the criticism which I know, according to the books, and, in fact, according to all authorities on wintering, I richly deserve. Yet "All is well that ends well," and it may be that we have gone too far in preparing our winter quarters, &c. Now, I will make a plain statement of facts, and you and others can deduct your own conclusion.

During the summer of 1878, I purposed building a honey house, with a cellar under it for wintering my bees. During my leisure hours, I dug the cellar, and when the honey season closed, I took sick and the building of the house was abandoned. But, quite late, I put a frame of poles in it, and laid the sleepers across it with rails on them. The next step was to get the straw; but my team was in the corn field, and no straw could be put on until the corn was all cribbed. So time passed. At last, the corn was in, and the next day it commenced snowing, and we commenced hauling straw. We had a good distance to haul it, and the result was a layer of straw and a layer of snow, until we had about two feet of snow and straw on, when it got so cold and bad that we quit. That evening, I got some of my neighbors to help, and set my bees in the cellar, the combs being covered with frost, and the tops of the hives with snow, with snow in the cellar, everything being directly opposed to teachings. Well, the next three days were stingers, and I felt glad that they had escaped the severe freezing they would have got on their summer stands. On the fourth day, it moderated a little, and we commenced to haul straw and it commenced snowing again, giving another layer of straw and snow alternating, until I had about four feet on, and quit.

Now I intended to set my bees out the first good weather that came, give them a flight, and then put them away according to the books; but no good weather came until the last of February, and they were put in on the 7th of December. After they had been in a week or two, I picked up heart, and went in to see how they were getting along. When I opened the door, I was sicker than ever; drip, drip, drip, from over head, the bottom of the cellar all slimy mud, hives all dripping wet. Now, remember, I had over eighty stands of Italian bees in there, but not all the bees I had, for my lower apiary, as I call it, contained forty-seven stands and I had them put away according to the books, and I felt quite sure of them. Well, after looking around a little while, I found there were no dead bees on the ground, and nothing about the hives to indicate disease or death. So I closed the cellar, and came out of the rain into the cold. Another snow and cold spell followed, lasting until sometime in January, and I did not bother them for three weeks. When I went in again, the snow had about all thawed off the straw, and it being flat, of course the water ran through and down, over the bees. Remember it was the heat of the bees that melted the snow. I expected to find a sorry lot of bees. When I opened the door, I could just hear a faint hum, sufficient to let me know that there were some left to tell the tale; but, as the light of the lantern struck them, the humming sounded like the joyous song of a June day. Still, there was that drip, drip, from over-head, and the hives were all wet from top to bottom, but there was not a pint, all told, of dead bees on the floor. Now, here is the point I wish you to mark: at the entrance of each hive that I examined, the bees were out in regular circles, drinking the water that flowed down the hive on to the alighting board, as I set my hives in, bottom board and all, just as they stand in the apiary. After drawing a long breath, I felt better. I looked at them several times more during the winter, and found them always, in greater or less numbers, taking water. Well, the result was that I never saw bees come out in better condition in the spring; there was not a moldy comb, not

a case of dysentery, and, although set out the last of February, and before the last very cold spell, not a case of spring dwindling. Two only died, and they starved. The combs of the other hives were full of young bees with plenty of bees to cover and protect them during the extreme cold that followed.

My lower apiary that was put away in good style, and kept dry, consumed one half more honey, raised very little brood, and, with dysentery and spring dwindling, I got but little good of it this summer. All the honey I got was in the fore part of the season.

Now, friend Root, and brother bee-keepers, I have given you the whole story, and a long one it is too, but it may set you to thinking. The idea I have drawn from it is, that dysentery is caused by thirst. Bees confined a long time without water become thirsty; to relieve that thirst they consume honey; honey has more or less solid matter that cannot pass off by evaporation through the pores of the body, as water does, and the abdomen becomes distended and diseased. This is but theory; but, hereafter, if I have my bees in a dry cellar, I will keep a rag saturated with water at the entrance, all the time they are in winter quarters.

My report for this year is very slim, 4,200 lb. of extracted honey, and 400 lb. in prize sections, up to July 7th; none since. I started the first of May with 76 strong stocks and 4 weak ones, and increased, by natural swarming, to 162. I doubled up this fall to 134, fed 2 barrels of honey to late swarms, and feel that if I get out with 75 good stocks next spring, I'll be all right. During the last two weeks of July, the month of August, and two weeks in September, there was no honey in anything but Rocky Mountain bee plant, spider plant, and the so called Simpson honey plant. I watched day after day for bees on other plants, but saw none. I have written enough now to consign this to the waste basket, and, wishing success to GLEANINGS, I close.

JAS. A. SIMPSON.

Alexis, Warren Co., Ill., Dec. 9, 1879.

You have given us a very valuable contribution, friend S. On first reading it, I was inclined to think it only demonstrated what I have often mentioned, that in spite of all our learning and philosophy, we often find bees wintering nicely, under circumstances we should consider. In every respect, to be the most unfavorable. A few years ago, after seeing a neighbor's bees come out strong in the spring, when wintered a couple of feet from the ground, on the summit of a windy hill, with the upper stories all on, and *no sign of a honey board* over them, I concluded that protection was a mistake, and tried a strong colony with nothing over the cluster except a roof to keep off the rain. A few bees were frozen at the outside edges of the cluster, at every hard freeze, and, before spring, the colony was all dead, while the blanketed ones near by came through without loss. I was forced to conclude my neighbor's bees were an exception, and survived *in spite of* their exposed situation. Besides the one colony without cushions and blanketing, I tried all that were in the house apiary, one year, before I could admit that protection was really an advantage.

Now the point is, did your bees winter nicely in spite of the dampness? or is it a good thing to have them damp? In your

case, it should be remembered that the temperature was excellent; it could not well have been better, for it was a little warmer than melting snow and ice all winter. Besides, the air was pure; in fact, it was quite different from the air of a cellar where musty vegetables and the like are sometimes kept. Now, in regard to plenty of water, where they can have it to drink every day during the winter; the experiments of Mr. Langstroth and our friend McCord, last winter and spring, seemed to show conclusively the benefits of water, where bees were rearing brood. I, too, tried the bottle of water, and was surprised to see the bees use so much. It may be well to mention that the colony having it, although a fair one in March, died with the dwindling, in spite of the water. I fear the candy and bottle so chilled the cluster, that it hastened the malady. Many of you remember that water was considered, some years ago, a necessity for wintering; Langstroth speaks of it in his book; but so many have since then declared water not a necessity, that the idea has been mostly abandoned. For all this, I have long felt that bees often suffer, and perhaps die outright, for want of water in winter. After colonies have died, how often we see the cells of candied honey uncapped one after another, as if they had been searching for moisture, or thinner honey! But, here comes a query; in cold weather, there is often ice and moisture right near the cluster. Why do they not appropriate this? If they do, does it prove unwholesome? Again; during warm, rainy weather, in the winter and spring, I have often noticed bees standing around, and looking out at the entrance. Now, when water is dripping all around them, why do they not go out and drink? I have often seen puddles of water on the alighting board, close to their very noses, but I never saw them drink any; perhaps they had drank enough, before I came around.

With stores composed of a large proportion of grape sugar, I have no doubt but that water in winter would be greatly to their benefit. We can readily give bees water in the cellar, as friend S. suggests, but to give them water in their chaff hives, all winter, should it transpire that we wish to do so, will be a little more difficult. We might give them little lumps of ice right under the cushion, but it would seem rather poor policy to give them ice after taking so much pains to keep it out. A piece of sponge laid right over the cluster will do it, but that would make too much disturbance, according to my idea. Does it not seem that they would go through the door and get it, if they wanted water very bad, when wintered outdoors? I am afraid they do not, and I am inclined to think whenever we wish to start brood rearing very briskly, we will gain by giving them water as well as candy and flour, right near the cluster. How shall we do it best, say in March and April? I paid friend McCord \$5.00 for his idea of the bottle with the candy, but I confess I don't quite like it after all. Perhaps it was because I thought it killed, or helped to kill, the colony I tried it on.

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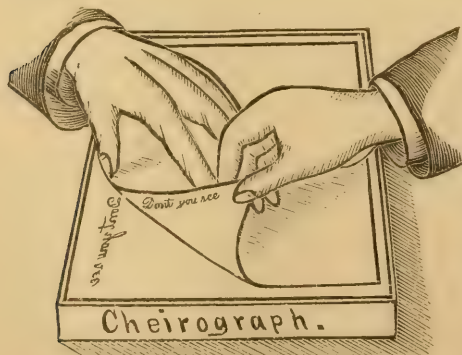
FOR some time, I have been deeply interested in a process I am going to describe to you, and had fully decided to make an attempt to do away with the high prices asked for the apparatus, before the *Sunday School Times* took up the matter. As they have done it so well for me, I take pleasure in making the following extract from their issue of Nov. 8th. The engraving is our own work.

A BOON FOR SUPERINTENDENTS.

There is no earnest superintendent who has not felt the need of some simple and inexpensive way of multiplying copies of programmes, maps, illustrative sketches, circular notes to teachers or scholars, special outlines for teachers' meetings, etc. Printing is unsatisfactory and expensive; the electric pen and papyrograph promised to supply the need, but they are both expensive and troublesome. Lately, however, some Frenchman, I think, hit upon the happy idea of using a specially prepared moist composition pad for receiving a transfer from a written page, and making impressions directly therefrom, the same as from a lithographic stone, or more nearly like the multiple copying process of Mr. Edison, in which he used unsized paper for the transfer plate. Numberless copies of this foreign invention have been put upon the market here, such as the "Electrograph," the "Chierograph," the "Copygraph," the "Jellygraph," the "Lithogram," the "Multigram," and various other graphs and grams the differences between which are not patent to the observer.

Every superintendent can, however, easily and cheaply make one for himself, and he will find it almost invaluable in his work, as from one writing or sketch he can quickly make from fifty to one hundred exact copies with the least possible trouble.

For a plate capable of taking on an ordinary letter paper, procure one ounce of glue (the "white glue" makes the best looking pad, but any kind will answer), and put it in soak in cold water until it is soft and pliable. Then drain off the surplus water, place the glue in a tin dish, and set this into another containing hot water, similar to an ordinary glue-pot. When the glue is melted, add six ounces of glycerine which has previously been heated, and mix the two thoroughly, adding a few drops of carbolic acid to prevent moulding. Pour out this mixture into a shallow pan a little larger than the size of a letter sheet, say 9x12 inches, and set it away to cool, taking care that the surface is free from bubbles. After standing twelve hours it is ready for use. The pan is best made of zinc, about half an inch deep, with a cover, but a common baking-tin will answer every purpose.



To use this composition, first write or draw on a sheet of paper what you wish to duplicate, with a

good, sharp, steel pen, and a strong aniline ink. When dry (blotting-paper must not be used), lay the paper face down upon the pad, pressing it lightly with the fingers, and allow it to remain there from one to five minutes,—one minute is generally sufficient. On removing the paper an impression will be found on the face of the pad, and if another piece of paper be placed upon it, it immediately receives a similar impression; and as rapidly as sheets of paper can be laid upon the pad, lightly smoothed with the hand, and removed, duplicates of the original are produced. As soon as enough are printed, wash off the impression from the pad with a soft sponge and cold water, and it is ready for use again. This is all the apparatus, and, made as above, need not cost over fifty cents.

The best ink for use with the above is purple, made from "B. B. purple aniline" dissolved in water. From this I have taken one hundred and twenty-five good copies of one writing. A beautiful red may be made from "Eosine," and a fine green from "Victoria green," either of which is good for forty impressions. "Nigrosine B." makes a good black, but will not permit of more than eight or ten copies. Blue from "Sol. B. B. blue" is but little better. To make these inks, dissolve the aniline in water until it is a bright color, filter through muslin, and evaporate until it is so strong that the writing shows a bronzy hue when dry, taking care not to inhale the fumes while evaporating it. In writing, have plenty of ink in the pen. If the pad has stood some time unused, moisten the surface with water before using.

Various substances may be added to the composition for the plate or pad, without materially affecting its value. A portion of the glycerine may be displaced by sugar. Soap has also been tried. If a white plate is desired, add whiting, or barata sulphate, or white lead, stirring them in well. The principle of action is, that a thin film of the plate is taken off upon the face of each sheet, and with it the ink. This causes the paper to feel sticky when first printed, but it soon dries. As a consequence the plate wears out, standing, perhaps, for two thousand impressions, but may be cheaply renewed. If the surface be damaged, melt it again, over a slow fire.

A good plan by which to secure placing the sheets true with the writing is, while the original is on the pad, to place strips of paper around it, just touching its edges. These adhere to the pad, and form a guide for laying the subsequent sheets. If there are large blank spaces where there is no writing, they may be covered in the same way to advantage. Ink stains up in the fingers can be removed by alcohol, followed by pumice soap.

Plainfield, N. J.

GEO. H. BABCOCK.

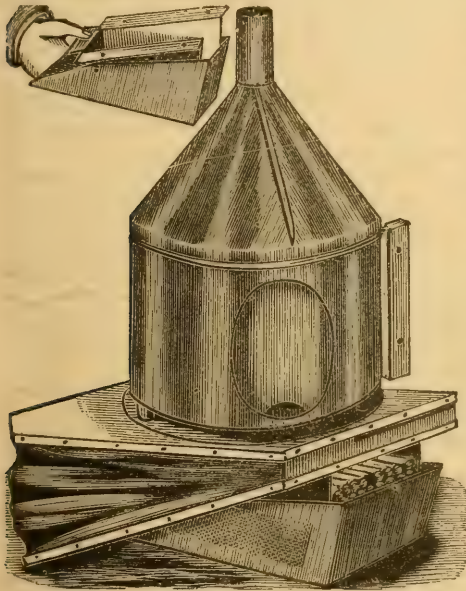
There! does not the above make it all plain? These pads are offered for sale, at prices all the way from \$1.00, to \$10.00; and it was just because there is such a speculation on them, that I have been moved to describe the way in which the apparatus is made. Let us see! the oz. of glue will cost about 1 cent; the 9 oz. of glycerine, about 18c.; and the tin dish, 4c. This would be 25c. for the materials for a pad, note size. The "B. B. purple aniline" is worth \$1.00 per oz., but an oz. would make about a gallon of the ink. A bottle of ink could easily be furnished for 10c. I sent \$3.50 to N. Y., for an outfit, to see just how nicely they got them up, but I could easily furnish the whole, post paid, for 75c. With this process, you can easily give prices on any thing you have for sale, and, with a little skill in drawing, can make very pretty illustrated circulars, and change them every day, if you like. With the colored inks mentioned, you could draw honey plants, give them the colors of life, and take a hundred copies of it, almost as easily as one. If I had but a hundred or two subscribers, I should try to give you one leaf, at least, of samples of this new art.

P. S.—The P. M. G. has decided that all letters copied by the above process can go at

prices of printed matter; viz., for 1c. *It is not patented, nor patentable*; if any body tries to make you think otherwise, he is a swindler.

THAT NEW MATCH BOX FOR ANY SMOKER.

IT is a comforting thought, that when I find myself unable to invent to order just what I want, I have only to mention it, and some bright brother or sister soon sends just exactly the thing wanted. It is friend Betts, this time, who has given us the match box, the same who invented the diagonal wires to prevent the bottom and top bars from sagging. I gave him \$5.00 for the idea as soon as I saw it, that I might give it to you. Let him describe it.



THE NEW MATCH BOX ATTACHED TO THE SMOKER.

Perhaps you have never seen one of my new excelior smokers. As I have frequently seen, in GLEANINGS, some one calling for a match box smoker, I invented the match box attachment, several months ago. In GLEANINGS for last Nov., I see Mrs. Jordan calling for one on the spot; perhaps she would like something more complete.

L. W. BETTS' EXCELSIOR COLD BLAST SMOKER

Differs from Simplicity C. B. Smokers, in having the following improvements:

- 1st. Fuel hole in the side as in pencil sketch.
- 2nd. A small draft on the other side opposite it, making a sure draft from one or the other.
- 3rd. It has a complete self closing match box.
- 4th. It stands upright like a sober man.
- 5th. It looks nicer.

The match box itself has the following advantages:

- 1st. There is no spilling matches.
- 2d. There are no premature ignitions.
- 3d. It is a match box complete, which always stays closed, and has a place on each side to strike matches.
- 4th. It suits either a right or left handed man.
- 5th. The boxes are easily made, cheap, adjustable, and can be attached to any smoker, made or unmade.
- 6th. It can be manufactured as an attachment, and sent by mail to all who have none.
- 7th. It has nothing to get out of order.

I think them a decided improvement, and have sent you a sample by mail, though it is a poor specimen, being made from old tin. Try them. If you

don't like this, send it back, but be careful how you write postal cards to me, for I hate them nearly.

C. A. Lovell is several months behind on side hole for fuel and draft.
L. W. BETTS.
Milton, Del., Nov. 11, 1879.

ADAM GRIMM.

SOMETHING ABOUT HIS EARLIER DAYS IN BEE CULTURE.

EDITOR GLEANINGS:—I have a few facts concerning Wisconsin's great bee-keeper, Adam Grimm, that would perhaps be interesting to some of your readers. There is an old gentleman living near me, who says he sold Mr. Grimm the nucleus of his extensive apiary. He says that soon after Mr. Grimm came from Germany, he sold him a colony of black bees, in an old gum, for which he received an English sovereign, and then assisted Mr. Grimm home with his bees. They carried them home, strung on a pole (as we would term it), a distance of three miles, which was quite an undertaking, as it was a very heavy swarm. He also states that he was at Mr. Grimm's home three years after, and he had some thirty swarms. From that one, he accomplished these results, by dividing and artificial swarming. It is quite evident that Mr. Grimm brought his theory from his mother country, and must have handled his bees at that time in box hives, as this happened some thirty years ago; so my friend informs me. By the way, this friend of mine is an A B C scholar of yours, of 77 years. He has 28 swarms of Italians and hybrids in the Gallup hive, with chaff cushion division boards, and packed in chaff on their summer stands. He is also a reader of GLEANINGS. All this has been done in two years. I mistrust he has caught the enthusiasm that Adam Grimm had thirty years ago. There is one more thing he has done, but I hate to own it; he "scooped" his son and myself this fall, hunting wild bees.

M. A. GILL.

Viola, Richland Co., Wis., Dec. 15, 1879.

DRONES IN WORKER COMB AGAIN, NATURAL VERSUS ARTIFICIAL QUEENS, AND CHAFF PACKING FOR WINTER.

IT is true, we sometimes find drones from natural queens (both Italian and black), in worker comb; but, in every case that I have seen, except when the queens were old, the cells were not uniform in size; either the comb was "wavy" making the cells larger on one side, or, from some cause, the bees had constructed a few irregular cells, and in them the drones were reared. I have, however, had young, artificial queens that would lay both drone and worker eggs (they would hatch from $\frac{1}{2}$ to $\frac{1}{2}$ drones), in straight worker comb, with cells of regular work-size.

I have raised artificial queens, more or less, for the last 13 years, and have tried nearly every way of raising them, that I have yet seen recommended, but have failed to get them to average as well as natural ones. If you have any way of doing it, please tell us just how it is done.

A few words will answer dozens of letters in reference to chaff packing. Pack chaff on all sides of the hive; leave no side unprotected. One thickness of carpet or bagging is enough on the frames; more would be worse than useless, as it is not as good a conductor of moisture as chaff, and the chaff will retain the heat. All that is needed of any cloth is to keep the chaff out of the combs. Put 4 or 5 in. of chaff on the cloth, over the frames. Put no boards or covers on the chaff, except the cover to the hive or packing box.

J. H. TOWNLEY.

Tompkins, Jackson Co., Mich., Dec. 16, 1879.

BEES AND GRAPES.

SEEING the discussion in GLEANINGS as to bees eating grapes, we would like to give our experience, as we make grape-growing a specialty. We have twelve acres of grapes and about 120 stands of bees, blacks and hybrids, and we do not think that we have ever had a grape punctured by bees. You do not seem to be aware that the Concords are very liable to burst, if there is a wet spell of weather about the time they are ripe. In fact, their thin skin is their weak point. About four years ago, we lost nearly our entire crop of Concords, by their bursting, on account of a two or three days' rain, before they were quite ripe enough for wine. If you will take the pains to look at your Concord grapes after every wet spell, when they are ripening, you will soon become convinced of this fact.

Delawares very often burst, because the bunch is so compact that they have not room to grow, and they are also so very sweet that the orioles are more destructive to them. Our Delawares are about thirty yards from our bees at the nearest end of the rows, and may be one hundred yards from them at the furthest end. Our house stands by the side of the bees, and, in consequence, is about the same distance from the Delawares. We have usually found it almost impossible to get a perfect bunch of Delawares from the furthest end of the rows, and supposed it was because the orioles worked there more than they did near the house; but I suppose we shall have to change our minds now, as you say the further the grapes are from the apiary, the more the bees work on them. We have two brothers who have about ten acres of grapes, within one-half mile of our bees. One has two stands of bees, the other none; and we have never known either of them to complain of bees eating their grapes.

The only time when the bees trouble us seriously is after we have commenced gathering the grapes. We usually gather them in buckets, and pour them into barrels in the vineyard. The handling bursts a great many of them, and the bees get into the barrels and get covered up. Then when we go to feed the grapes in the mill, for crushing, we get our hands full of stings, as we feed them out with our hands. The grape juice seems to be an antidote for the stings, however, as when we get through and wash up, we cannot find where we have been stung, though we may have pulled out fifty in the course of two or three hours. At other times, a sting is very apt to swell.

We certainly would not keep bees, if we thought that they destroyed grapes, as we only make bee-keeping a secondary consideration.

A. H. & GEO. B. WORTHEN.

Warsaw, Ill., Dec. 10, 1879.

QUEEN REARING.

HOW DOOLITTLE RAISES THE QUEENS THAT GIVE THE GREAT CROPS OF HONEY.

ON page 476, Dec. No. of GLEANINGS, Doolittle is asked to stand up and tell how he raises queens.

To best do this, we wish to go back 7 or 8 years, at which time we had a mania for artificial queens, as they were then called. We reared a lot, by taking the best queen we had away from a populous colony, the fore part of clover bloom, as the books and papers told us this was the best time. We had a fine-looking lot of queens, which, in due time, were

fertilized, and did not seem to be surpassed in egg-laying that season, by any of those reared a little after by natural swarming, although those reared during natural swarming were nearly one third larger. As soon as the first lot of cells was about hatching, we took them all away, giving the bees more brood upon which they started and sealed upwards of 100 cells. To our surprise, these cells commenced hatching in eight days from the time the brood was given. About four hatched on the eighth day; ten on the ninth; about twenty-five, on the tenth; and by the thirteenth, all were hatched.

We experimented with those queens, and succeeded in getting a few of the 8 and 9 day queens fertilized, after they were two or more weeks old. They laid well for a short time, but all died of old age before fall, one living only about a month. The next spring, we lost a number of queens, finding them dead at the entrance with a few bees around them; and upon tracing the matter out we found that $\frac{3}{4}$ of this loss was of the queens reared artificially. We were not slow to take the hint, and since then have reared scarcely any queens artificially. Our plan of rearing queens is this: In the spring, we select the stocks having the queens which gave us the best results the season previous and get them strong as early as possible, by spreading the brood, or, if we can do it in no other way, by giving them frames of sealed brood from other stocks, so as to have them swarm in advance of the rest, thus giving us cells or queens reared just as bees used to rear them, when they first came from the hand of the great Creator, and he pronounced them good. These cells we give to nuclei which we form to suit the requirements of the cells, and by the time we wish to use queens in the apiary, we have queens that are just as good as those reared by any other method, and we judge we shall be pardoned for thinking they are a little better. As Novice tells you, we (my wife and I) are quite hands to unite bees, and, of course, keep an eye out for the best queens at all times.

One other thing we think, and that is, that queens reared from the egg, by all old bees ("queens from the egg" as Mr. Foster says), are but little better than queens that hatch in nine or ten days from the time the brood was given. This is our experience at least, and we would give some of our experiments, but it would make this article too long.

TWO QUEENS IN A HIVE.

There is one other way in which we get splendid queens (and we see by back Nos. of GLEANINGS that Novice is not slow to take hold of a good thing either), and that is, by keeping watch of all colonies that show a disposition to keep two queens in a hive. We have had several such colonies, and as fast as the young queens get to laying, we take them away, and in 3 or 4 weeks they have another ready. Thus we kept one colony rearing queens all the season of 1877, and had one other in the yard that had two queens in the hive all the season, and both laying. We saw those queens come together so as to touch each other, at two different times. The old queen gradually ceased laying and, at last, I found her at the entrance, one morning in October, dead. It is not necessary to wait for the cells to hatch in the colonies showing this disposition, but, as soon as they are sealed, take them out and give them to nuclei, and thus you can secure many queens of the highest standard of excellence, provided the mother is such a one as you care to breed from. G. M. DOOLITTLE.

Borodino, N. Y., Dec. 1879.

The position taken by friend D., that queen cells produced by the bees during the season of natural swarming under the influence of the swarming fever, and not because they had been deprived of their queen, will bring forth longer lived and more prolific queens, is by no means a new one. The same ground has been strenuously held by a great many, during the years past, and perhaps by none more earnestly and vehemently, than by our friend, J. M. Price, who wrote for the *American Bee Journal*, 10 or 12 years ago. In collecting facts on the subject, so many strongly marked exceptions to the rule were found, that I believe it was generally dropped, although all agreed that there was a tendency to short lived queens where the cells were reared artificially, as it is called, unless careful precautions were taken to prevent the bees from using large larvæ, to nurse and feed up for queens. I do not know that I ever had a queen hatch in 8 days; if I have, I do not now recall it to mind. I have had quite a number hatch in 9 days, but I have never been satisfied that these were invariably poor. The half queen and half worker, that we have many of us seen, reared by poor, thriftless, weak colonies, that lays a little and then is gone, is, of course, a poor thing; but, if I am correct, we sometimes find these as the results of natural swarming, and especially, of excessive over swarming. If natural swarming surely gives better and longer lived queens, I wonder why some of the friends I have now in mind do not thrive and prosper as well as those who do things more on the artificial way.

Friend D's way of knowing exactly the worth of every queen in his apiary, and then uniting that he may save only the best of the large number he rears every year, is certainly a most commendable idea, and I have many times suspected that sharp wife of his, whom I have never seen but have heard of and from, has had very much to do with many of these things, which has caused them to bring forth such wonderful crops of comb honey from a given number of stocks yearly.

I am very glad indeed to get encouragement from two such worthy workers, in our new plan of getting a race of queens that will supply us with extra natural queens without ever having a hive in the apiary queenless. I am afraid, my friends, I shall not be able to raise a thousand queens in a season, if I have to get all the cells from colonies bent on natural swarming, and have them all from imported queens too. How much more will I have to charge for queens reared from such cells? As a good many imported queens have been found dead in front of their hives this fall, would we not better find how Fiorini, Bianconcini, and Tremontani rear theirs? Who will tell us how they rear queens in Italy? And by the way, my friends, just keep a record of the queens you have purchased, and tell us how long they live. Did any one ever sell queens that were reared from cells built only under the influence of natural swarming? Let all the facts come out, no matter how it hits. I am quite in love with the idea, and have been for some time, of an apiary where all colonies are allowed to swarm naturally.

Boys, how is it with the queens that come from the woods? Are the ones you get out of bee-trees always extra good?

THE NEW SUGAR CANE.

THE EARLY AMBER.

SINCE my offer of last month, to give any of our subscribers a few seeds of the new sugar cane, there has been so much said about it that I have prevailed upon our neighbor to furnish the following:

Mr. Root:—You wish to know the name of the seed that I sent you. It is the Early Amber sugar cane, and I will give you my experience with it on a small scale.

I received a small package of seed from the Com'r of Agriculture, and planted it about the first of June in my garden. It received no special care, except that the weeds were cut out. I was surprised to see it ripen about the first of September, making nearly the whole growth in the short space of three months. This determined me to experiment further, thinking that sugar could be made from ripe cane. As there was no machinery near for extracting juice, I constructed wooden rollers, and succeeded in getting about a gallon of juice from an armful of cane. This was cooked down into a sticky, ropy mess that was not very inviting. I was a little discouraged, and thought no more about it for a few days. When I came to look at it again, however, I was astonished to find that it had grained, and I had about two pounds of raw sugar—certainly "raw" enough, but our Commissioner of Agriculture says it is equally as good as the raw sugar of the South. What the process of clarifying sugar is, I don't know, and consequently could not experiment further. The rest of my cane (about one square rod) I took to a mill and got eleven gallons of juice, and from this three gallons of syrup. You know how good it is, as I sent you half a gallon. I find the syrup in the bottom of the vessel has granulated.

This, then, would be my way of treating it: I would make pretty thick syrup, put it away for a month, and then about one half, I think, would be sugar. Drain off the molasses, and we would have a pretty fair quality of sugar. I am satisfied that I could furnish the syrup for 25 or 30c. per gallon, and make a good profit from the land. My experiment shows that one acre of cane will produce over 300 gallons of syrup. I know of no cheaper feed for bees than this; but this is not all the profit from the crop. I got seed at the rate of 60 bushels to the acre, weighing (guess work) about 40lb. to the bushel. I am so well pleased with this cane that I have bought machinery for pressing it, and intend to plant the coming season, at least an acre.

IRA BENNETT.

Medina, O., Dec. 14, 1879.

Friend B. did indeed bring me a half-gallon about the day after Thanksgiving, and I have eaten it at almost every meal since. When I tell you I prefer it to honey or any other kind of syrup, not even excepting maple molasses, you may be inclined to think me extravagant, as do Mrs. R. and the children, for not a drop of it will one of them have. That it will make a sugar that will do for feeding bees, in poor seasons, I am well satisfied; for I saw the sugar in the feeders the day I visited friend B. Very likely, we can feed them the juice, and let them do the re-

fining; but we haven't got so far as that yet, and the spider plant, you know, is still less trouble; for, with that, we do not have even to squeeze the juice out.

P. S. — I know the seed is good for turkeys, for they followed after me, with wishful looks, when they saw me have the stalks in my hand.

Later:—At dinner time, I happened to think there might be sugar in our jug, and so I pushed a knife down into it. Sure enough, there was sugar all over the bottom. I poured out the syrup, scraped up some of the sugar which was in clear white crystals, and washed them with hot water. It is sugar, sure, and nice enough for bees or anything else. In fact, after washing off the syrup it seemed almost equal to coffee A, without any refining or purifying. I confess I cannot see why we cannot raise sugar a great deal cheaper than we can buy it, and, if it happens to be a good season for honey, we shall have nice sugar to sell. Bear in mind that, if you have your sugar works near the apiary, you will have to close the doors and windows with wire cloth. We cannot have bees getting drowned, daubed, and scalded.

The seed of this cane is worth 25c. per lb., and about 4 lb. are required to plant an acre.

The "Smilery."

This department was suggested by one of the clerks, as an opposition to the "Growlery." I think I shall venture to give names in full here.

I HEREWITH hand you one dollar, to pay you for that nice file, and the GLEANINGS for the next six months. Now, friend Root, I do feel mean for writing that last letter and sending it to you, for I do believe you do try to do right in all things. I must have felt really ugly and cross. When the boy came up from the office and handed me that file, I do believe I settled down in my chair one foot; why, I felt so mean I was ashamed to tell them how I got it. So, please take the pay for it. I have thought many times how delighted I should be to see you, and now I should be ashamed to have you know me here or hereafter. Excuse this pencil, for I have no pen in the shop. J. CHILDS.

Amherst, Wis., December, 1879.

Well, well, well! I have heard that truth is stranger than fiction, but I never expected we should have a man out of the "Growlery" and into the "Smilery," in the same number of GLEANINGS. I did not take your letter as particularly unkind, friend C., but I thought it would do better for the "Growlery" than any other letter I have had lately. I supposed I needed it, and I guess it did do me good. The files were some I bought of a dealer who offered them cheaper, and, as soon as I found out they were not good, I was very anxious to replace all I had sold. The file justly belongs to you, and so we have marked you for a whole year on GLEANINGS, and sent a knife as a present for the boy who brought that new file from the post-office. You need not be ashamed a bit, friend C., if I should ever meet you (and who knows but that I may?). I should think far more of you, than if you had never got cross and scolded. I do

not mean that it is right to get "ugly," as you term it, but I do mean there are very few in this world who have the moral courage to come right out, own up, and say they are sorry, as you have done.

"Joy shall be in Heaven over one sinner that repenteth, more than over ninety and nine just persons, which need no repentance."

Had it not been for your scolding letter, I should not have made friend Alley that good offer. And, by the way, I have just this minute received the following from him, enclosing a postal card:

I inclose a card received from one of the growlers. I wonder how it would look in print? But it would not do to publish that side of the question.

Wenham, Mass., Dec. 17, 1879.

H. ALLEY.

And this is what is on the postal card:

H. Alley:—Yours, of recent date, is received. Please accept thanks for prompt return of money. Perhaps I was a little hasty in condemnation of you. I am sorry I wrote as I did, as I know what it is to be hurried and behind hand. I will most assuredly order of you, if I want any queens.

Plainfield, Mich., Dec., 1879.

F. L. WRIGHT.

Does it not seem, my friends, as if there were a good many of us who would do well to make just such confessions as the two brothers above, who have started the way?

BEE BOTANY AND ENTOMOLOGY.

A BIG BUMBLE BEE.

I SEND by to-day's mail an insect which, next to the moth, is the worst enemy of bees we have. There are great numbers of them here now. They catch the bees on the wing, and their capacity seems illimitable. Please tell us about it in GLEANINGS. N. R. FITZ HUGH, JR.

Picolata, Fla., Oct. 13, 1879.

The insect looked to us, like the "father of all bumble bees," but, as looks are sometimes deceptive, we sent him to friend Cook. His wings looked almost as if he might carry off hens and chickens, let alone bees.

MALLOPHORA BOMBOIDES.

The insect sent by Mr. N. R. Fitz Hugh, Jr., of Picolata, Florida, is the *Mallophora bomboide*, Wied, referred to in volume VII of GLEANINGS, page 14, and in 4th edition of "Manual of the Apiary," p. 300. As I gave no description then, I will do so now. In color, form, and size, it much resembles a bumble bee, hence the specific name, *bomboides*. It is 1½ in. in length and expands 2¼ inches.

From the color of the hair, the body is generally of a light yellow; though the eyes, antennae, legs, feet, and a band near the tip of the abdomen, which below along the sides extends to the thorax, are black. In this specimen, the upper surface of the thorax is black, but the hair is rubbed off. The wings are smoky.

As the characters of the genus and family and the habits of the insect were given by me in the articles already referred to, I will not repeat them. These insects of the *Asilidae* family are noted pests to apiarists. A. J. COOK.

Lansing, Mich., Nov. 28, 1879.

LOPHANTHUS SCROPHULARIFOLIUS AND SCROPHULARIA NODOSA — A CORRECTION.

In December GLEANINGS, I mention *Lophanthus scrophularifolius* as a sort of giant hyssop. The editor surmises that it is related to the Simps on honey plant (*Nodosa scrophularia*). There is no plant by the name of *Nodosa scrophularia*, but there is one called *Scrophularia nodosa*. It belongs to a different order from the *Lophanthus*. The latter is a mint; the first-named is a figwort. W. J. BEAL.

Michigan Agricultural College.

A CHEAPER DIVISION BOARD.

ALSO SOME GENERAL REMARKS IN REGARD TO DIVISION BOARDS.

IF I am right, it is admitted by all who have faith in modern management of bees, that the division board is an indispensable fixture, and I believe it to be second only in importance to that of the movable frame itself.

The chaff division board is undoubtedly a very fine arrangement, particularly for a cold hive; but then you know we want something cheaper, just the same as a cheaper frame than your metal cornered frame was wanted. For a chaff hive, perhaps a board division is as good as chaff, and the board division is perhaps the cheapest that can be devised. If so, then let us all discuss and endeavor to improve it just the same as other fixtures have been improved. This fixture seems to have been rather neglected, while others of less importance have had more than their share of attention.

All will agree that a division board must be effectually prevented from warping; that it must be susceptible of removal without jolting, even after the bees have perfected a good glue joint; that it must be air tight; that it must be so arranged as to adjust or accommodate itself to any variations in the make-up of a number of hives, for, while a few may be found cut with great exactness, many others will be found varying too much for anything but an adjustable board to fit any and all of them; and, lastly, it must be as cheap and as simple as possible. Having these requisites in view, I have produced a division board that seems to fill them admirably.

It never will be patented, although ever so useful. I have patented four inventions in my time (not pertaining to bees), and they did not pay. No, gentlemen of the bee fraternity, not near so well as bees, although I keep only a small apiary.

Were I using a single walled hive, without outside protection, a chaff division board would be decidedly essential; but, in reverse cases, all that is needed is one that will effectually retain the animal heat, because, you see, these boards are placed in a position, where condensation can not take place in the manner you so forcibly illustrate in your A B C.

In August, 1878, I made a new chaff hive with walls not so thick as yours, and placed a late, medium sized swarm in it, contracted to 6 frame; with a pair of division boards made after the fashion of the one sent you. After the first long and severe cold spell, I found them as dry as in summer, with scarcely a dead bee, while others were dripping wet and had suffered severely, and they had a single wall and chaff divisions. This one, with the chaff hive and board divisions, kept dry and clean all the winter through, and spring too; they also kept their numbers good by constantly breeding, and in very early spring were "on the loom," saving for me several feeble stocks; during the swarming season, I drew on them for 2 good stocks, and, in addition, took 50, pound sections.

I do not produce this isolated case as being sufficient proof in regard to the virtue of these division boards, for, of course, it is not; but it does prove one thing quite conclusively; that is, they effectually retained the animal heat, otherwise the bees could not have bred up so like magic as they did during so cold and backward a spring as the last one.



BAKER'S SUMMER DIVISION BOARD.

Well, here it is, taken from a colony, right out of practical use, this very day. From my experience, they will remove the year around, leaving the oil cloth strips or segments at the ends as sound as these. I find that it tries the coils that shut in over the metal rabbets much harder than the segments, as this division board will show for itself. I use a frame just the size of 6 Langstroth sections, so you see this board will not fit your hive. If I would take both oil cloth segments off the board and hang it in my hive, there would be just $\frac{1}{4}$ in. space at each end. The segments a little more than fill this space so that they slightly depress when placed in the hive. This, then, is the manner in which the division board accommodates its shape to the walls of the hive, and thus, too, being of a yielding structure removes quite freely.

D. B. BAKER.
Rollersville, Sandusky Co., O., Oct. 22, 1879.

To make this division board, you would get out 7-8 boards, about 1 in. less in length than the hive is wide. The bottom, where it strikes the bottom board, is brought to a sharp edge, to avoid killing bees. With a half-inch cutter head, now run a groove in each end of the board, in which to drive the strips 1-2 by 7-8, to prevent the board from warping. If these grooves are 1-2 in. deep, we have the strips standing out 3-8 in., and this allows just about the proper amount of room for tacking on the strip of oil cloth. The oil cloth is so loose, that it bulges into a sort of half tube; and when the division board is pressed into the hive, it makes a perfectly close joint. The top bar is just like the top bar to any frame, and to close the holes in the rabbets, little rolls of oil cloth are tacked to each supporting arm, in a very secure and ingenious way, originated, I suppose, by friend Baker. As this idea seems to be an excellent one for closing the rabbet, with any kind of a division board, I will try to make it plain. Get a strip of oil cloth, about 6 or 7 inches long, as wide at one end, as your top bar, and gradually tapering to $\frac{1}{4}$ in. wide at the other end. Tack the broad end directly across the end of the top bar, and, commencing at the narrow end, roll it up tight. When rolled clear up, it will come under the end of the top bar, as shown in the engraving. Now, before you let the roll slip out of your fingers, fasten it with two small tacks. The strip's being narrower at the end inside of the roll will make the roll look like a short tube, and a tack is to be put inside of this tube, one at each end, and driven up into the underside of the top bar. I am thus particular, for, if you do not fasten these rolls securely, the propolis will pull them out, and they will be left sticking inside of the rabbet, when the board is moved along or pulled out hastily. These boards

can be made without trouble, for about 10c. each, or \$1.00 per doz. Notwithstanding all that friend B. says about them, I cannot think they will give as good results in cold weather, as a division board made of thin wood enclosing chaff or something of a like nature. The thin wood might be warmed up by the cluster so they could rest against it, while the other side was covered with ice; but, if the single 7-8 boards had ice on one side, it would be pretty sure to cold on the other.

WHY DID THEY PERSIST IN SWARMING OUT?

FRIEND ROOT:—July 2d, a swarm of bees came out, and we put them in a hive, and thought all would be right; but they came out again in about 24 hours, after having built some nice comb. Then we put them in another hive, giving them a frame of brood, and the frame of comb made the day before, and thought surely you will not desert any more. Well, July 4th, they came out again and started off, but with dirt, water, and the music of an old pan, we brought them down again, and hived them.

I made up my mind that they had no queen, and went straightway to another swarm to find one for them. I overhauled them, took out all the frames, and hunted an hour for a queen,—for the queen, but could not find her. I could not use an embryo one, as the frames were not like my others. Well, I had just got through hunting, when out the bees came again, determined to go off; and off they went, in spite of me.

I am one of your little class, and never had much experience, and don't know what to do. I have just ordered an A B C of you, but I am afraid it won't tell about this affair. What *was* the matter? Had they a queen? and, if so, what made them discontented? Is it a difficult matter to find a queen in a hive of bees? and how should one proceed to find her? what time of day, etc?

The hives I am using are similar to the Simplicity story-and-half. Both the hives I used with the run-aways were new.

S. H. GARFIELD.

Hamilton, Fillmore Co., Minn., July 4, 1879.

If you put in a frame containing unsealed larvæ, your case is a very singular one, friend G. It could not be on account of their not having any queen, as far as I can see, for queenless colonies are the ones most sure to stick to unsealed brood. It is possible they lost their queen when first coming out of the hive, or that, by some mishap, she did not go along with them; but, in that case, they would not have remained in the hive at all, but would have swarmed out and gone back to the old stand. Again, a swarm without a queen seldom remains in the hive long enough to build any comb; if they do, they invariably build drone comb, whether they have brood to keep them or not. Did you notice whether the comb they built was drone or worker? If worker, they certainly had a queen. A frame of unsealed brood would be much more apt to hold them than a new queen. Practice will enable you to find queens without trouble. I would not look more than ten or fifteen minutes in any hive for a queen, much less an hour. Shut up the hive and try another one. It is prob-

ably lucky you did not find the queen, for the swarm would have killed her, and then you would have had two colonies to fuss with. The A B C has much to say in regard to absconding. Are you sure the hives were not set where the hot July sun drove the bees out? New swarms should always be carefully shaded.

WILL REQUEENING IN THE FALL PREVENT "DWINDLING?"

DURING the past four years, I have had several colonies each year, that were queenless during the month of August. I gave them young queens, and, if necessary, a few bees, and I have always noticed that these colonies were my very best the next season, and yielded the largest profit. In Sept., 1878, I reared and introduced about 30 young queens. Last spring, I noticed quite a number that were far outstripping the rest, and, upon examination, I found that they were labeled "Received queen, Sept., '78." I at first attributed it to a change of stock, but *two* of the queens had been reared from my own stock, and one of them was second best, so this idea was exploded.

This has been a poor honey season, yet these stocks have given a larger average profit than a like number of my best, in any year previous. They were entirely free from the disease called "dwindling," while the rest of my stocks were not, but only a half dozen suffered badly. These stocks that I requeened last fall had no brood in any form, nor had any of my stocks that I examined. The young queens that I introduced commenced laying immediately, without stimulating, and these stocks went into winter quarters with plenty of young bees, while the others did not commence to breed until the first of January. I verily believe that nearly all of these would have dwindled and died, had they not been wintered in a cellar. As they had none but old bees, these would have died before they could have replaced them, had they been wintered out-doors. As my neighbors lost heavily by dwindling, I conclude that in-door wintering saved mine. My very worst had a half pint of bees and a queen left, and as they were *persevering Italians*, they came out all right by the close of the honey season, without much assistance on my part.

As a preventive of dwindling, I would suggest requeening in the fall, and cellar wintering, providing you have a suitable cellar. But who will furnish the queens? As you, Mr. Novice, seem to be the most expert hand at that business, I think that you ought to take the contract at starvation wages, and board yourself.

I have practiced what I preach this fall again, and will report, if you wish.

I. W. VANKIRK.

Washington, Penn., Nov. 26, 1879.

Thank you, friend V. Your premises, I agree to; or, at least, I admit that a large part of the spring dwindling is caused by the bees in the hive being too old, and that any means that will cause the bees to rear a lot of young bees in the fall will do much to obviate spring dwindling. Your conclusion, however, that the only way to secure this state of affairs is to put young queens in our hives in the fall, I can hardly agree to. By feeding, or, what is still better, by the use of flour candy, we can get almost any old queen to rearing brood, and I think this will be

about as well as giving them a young queen. Many of our queens do better the second year than they do the first; would it not be a great waste to kill all these off? Getting your colonies to rear a nice lot of brood by feeding, I think will answer every purpose.

FROM GERMANY.

ANOTHER RELATION OF THE SIMPSON HONEY PLANT.

MY DEAR FRIEND:—I have read in GLEANINGS how busy you are to furnish your bee farm with honey-producing plants, and have learned, by your instructive journal, that you have been very successful in procuring excellent plants for summer and autumn bee pasturage. Now, I think it would be agreeable to you to have also, on your bee farm, a flower which yields honey in abundance early in the spring. I therefore take the liberty to send you a small package of seeds of the *Scrophularia vernalis*. It is a perennial, German plant, and will blossom in the second year after sowing, but as early as the crocuses. As soon as the snow is melted away, and the weather is favorable, you will see the bees gather the sweet nectar from it, all the day. Of course, a plant yielding honey in abundance so early in the spring, is of the greatest importance to every bee-keeper. After a protracted winter confinement, the bees long to have fresh honey and pollen, and I take it for granted that one pound of fresh honey does them more good than two pounds from the old stock in their hives, or of that which we feed them. Feeding in spring will be every time more profitable when the bees are able to gather some fresh honey from the flowers.

After reading your report in regard to the Simpson honey plant, and more of the Spider plant, I should like to have some seeds of these wonderful plants. You would oblige me very much if you would be so kind as to send me some seeds only in a small package, by letter.

We have not had, in most sections of our country, a good honey year. The weather was too cold and wet throughout the season. Only the bee-keepers of the heath (Heidimker), in the province of Hannover and the dukedom of Brunswick, have had some profits from their bees. Buckwheat has failed, but on some fine days of August and September, the bees gathered honey from the *Erica vulgaris*.

Your A B C, which I had the pleasure to see at my friend Lohmann's, who did reside, last winter, in Brunswick, is a very instructive and unparalleled bee-book for everyone, both in the Old and New World. Your GLEANINGS, I must tell you, is, in fact, a genuine vagrant in Germany; at least, the copies you send me are never at home, and their migrations go further than those of the good old Vicar of Wakefield, from the blue bed to the brown; they go from one bee-keeper to the other.

I might wish Medina were not so far from Brunswick, and I could have, for a short time, the word out of your "Home of the Honey Bees," for our *Bienenzeitung*. I would give a description of it in this paper. The picture of your bee-farm is wonderful and very attractive.

C. T. H. GRAVENHORST.

Brunswick, Germany, Nov. 21, 1879.

Many thanks, friend G., for your seeds and kind letter. I value the seeds all the more, as I judge, from the name, the plant must be a relative of our much-esteemed

Simpson honey plant. I am very glad to hear that GLEANINGS "travels," and if you do not get your numbers back again, let us know, and we will send you more. I, too, would be glad, my friend, if we were not so far from each other; but it encourages me more than you can think, to hear that my work has gone clear into the homes away across the great waters.

THE NEW GRAPE-SUGAR BEE-CANDY.

IT SEEMS I AM NOT THE ORIGINAL DISCOVERER, AFTER ALL.

IN some cages of queens received last summer, I noticed some soft white candy that seemed to have the property of keeping moist, even during dry weather. I tasted it, and wondered a little what it was made of, but passed it by. Just now comes the following:

A. I. Root:—I see by your October No., that you have discovered a new bee-candy. I have used the same (without the flour), since about the 1st of June last, for food in queen cages. If you will look in the cages of the queens I sent you, you will find the same candy. I discovered it by accident, and also discovered that queens can be shipped long distances without water, when supplied with this candy. I have shipped a great many queens this season, some in your section-box cages, and find that they will stand confinement longer on this candy than on clear honey. In fact, I do not know that I ever lost a queen when provided with it, and I have sent them very long distances, without water. This has been a poor season, all things considered. Our apiary has averaged us \$12.86 per colony, cash, for bees, queens, and honey sold, and we have a few hundred pounds of honey on hand, but will keep it till spring.

F. L. WRIGHT.

Plainfield, Livingston Co., Mich., Nov., 1879.

Although I think this candy may be much better for sending queens (as well as cheaper), I do not believe we can dispense entirely with water. During warm weather, the candy keeps quite warm and soft; but at the approach of cool or cold weather, the grape-sugar mixture, like honey, becomes quite hard.

KEEPING QUEENS OVER WINTER IN A CAGE.

A cage is now standing in our office, containing bees which have been healthy and lively for about two weeks. They are supplied with candy, sealed honey, and a bottle of water. Although the room gets quite cold nights and over Sunday, it does not seem to harm them in the least. With our cage, such as we send a half-pound of bees in, I have but little doubt but that we might keep a queen in good health all winter. It would seem they should be allowed a fly, at the approach of a pleasant day, but there would be a difficulty in this, as they would be almost sure to swarm out. If the queen was caged at such a time, I rather think the bees would all come back safely. Who wants a queen with a half-pound of bees, to see if they can keep them over winter on water, candy, and honey?

ADVANTAGES OF A HILLY OR MOUNTAINOUS DISTRICT FOR AN APIARY, &c.

ALTHOUGH this is the third year of my residence in this county (Lewis), I have never visited the tops of the high hills around me until to-day. Col. McGee, of Clarksburg, furnished the horses and led the way to the summit, where he said I would find my bees in a sea of flowers, and learn the source of all that honey that is coming in so rapidly just now. I can't tell all I saw, but I know I wished that A. I. Root was there to feast his eyes on that scene. There were thousands of acres of beautiful flowers, some of the yellow flowers being higher than our heads, when sitting on the horses, while some of the blue and white only came to the stirrups. Looking down the slopes, we could see the large basswood and poplar, sourwood, red-bud, spice-wood, and many other kinds, covering a greater area than the flowers. I send you a specimen of each of the flowers I gathered. When I got home, wife and daughter gathered around me, exclaiming beautiful, lovely, so sweet, etc.

The tallest of the yellow flowers grows from 2 to 8 ft. high, with many branches, and is called here, "Farewell summer;" it is an excellent honey plant.

The yellow, bell shaped flower grows from one to three feet high; the velvety blue, about eight inches; the variegated blue, about one foot; the other blue, from one to three feet; the specimen with only buds, one to two feet, none of that being in bloom yet. Interspersed with all of these, is the golden rod in abundance, just coming into bloom. The same plant bloomed in the valleys a month ago. Col. McGee says, when these mature other flowers spring up, and the scene will be the same a month hence.

The elm is the first to bloom in the spring, then the soft maple, sugar tree; red-bud, willow, poplar, in May; basswood, the last of June. There are so many honey bearing plants, trees, and flowers, I can't think of them all; even the teasel grows wild here. All of these and many more grow here in abundance, and always will, because the side hills are too steep to be cultivated. There are a great many wild bees in the woods, and numbers cared for in "My Daddy's Hive" (gum and box); some of the keepers know the drones lay all the eggs; a few have the movable frames, mostly the Langstroth, and some of them now want the Italians. I have sold a few colonies, and but few queens. I raise most of my own queens, and have about 100 colonies, a few of them black. M. L. WILLIAMS.

Vanceburg, Ky., Sept. 8, 1879.

SUNFLOWERS FOR SHADE, AND ODDS AND ENDS.

ONE of the brothers of the class from Salem, O., Mr. Frank Taber, writes:

"Many, no doubt, would like to hear, through GLEANINGS, the result of your experiments with sunflowers for shade, how arranged, etc. I have tried several shades, but none are satisfactory. Please give us your experience."

With us, as mentioned in a previous article, asparagus was first set by each stand. Asparagus does not make shade enough, and it will not stand up, but lops down in a manner quite provoking and untidy. This year we secured excellent shades by putting a sunflower or two (one is better than two) about a

foot to the east, another about two feet to the west of the asparagus. I would not advise the planting of asparagus, however. Just put three sunflowers in line, a foot and a half apart. Some of ours were planted on the spot, and some of them transplanted. They bear transplanting well, and either way answers. Good plants, and extra early, can usually be got from the self sown seeds where sunflowers grew the previous season. When the stalks get 6 feet high, pinch them off. The apiary is made to look much neater by keeping them short and of even height. Moreover, the lower leaves of very tall sunflowers are somewhat apt to wither and let the sun in. If you start the plants early, and let them bloom and go to seed as quickly as they choose, they will be apt to ripen and dry up before you are ready to dispense with shade. By preventing or delaying bloom, the plants are kept green longer. Most sunflowers branch out very profusely, and will soon weary their owner out if he tries to keep them from blooming. Some, however, most rigorously limit themselves to one head, and will not branch out when the terminal bud is pinched. These are the most desirable. I am trying to establish this trait by selection of seed, but my this year's plants, many of them, went back to their old habits. Perhaps another year's discipline will show more complete results in next year's plants. My present opinion is that the sunflower is about the best of green shades; but I still adhere to my old opinion, that our coming shade is not a green one at all, but a positive, artificial, movable one. I hope to know more on this point next fall at this time than I do now.

There, now, it won't do to keep it any longer. I feel ever so much taller than I did. I want to make my *salam*, and shake hands with the boys all around. I have gone and done it. I have bought the apiary here, and am no longer a brevet bee-keeper, but a genuine member of the fraternity.

CONDENSATION OF WATER IN UNPROTECTED HIVES.

Directly after that cold spell with which November came in, when the mercury went down to within 14° of zero, I opened some hives that still had all the extra space that was given them in the summer for honey storing. Of course, the bees had had a pretty hard time of it. I was not, however, prepared to find such quantities of water of condensation as I saw. Puddles of it were on the bottoms of the hives, and the *tin rabbits were troughs of water*. Reflecting on this circumstance, I hit upon a little invention that may be of use. Why not utilize the condensing power of a sheet of tin, to keep drops from forming on the honey and woodwork, where they will soak in and cause perpetual dampness? Between the ends of the frames and the back side of the hive, I mean to place a strip of bright tin. The head of a tack, partly pressed into the wood, will hold the upper end of it, while the lower end rests on the bottom. This, on account of its position, will be a trifle cooler than the air that circulates in the hive; and I anticipate that nearly all the free moisture will gather on it and run down. Such a condenser is at least very simple and inexpensive. Can you think, dear teacher, of any harm it could possibly do?

I, too, would like to see what can be done with the queen that does not kill her daughters; but I can not take her, as you suggest in November GLEANINGS, as I have another queen-rearing project that would interfere.

I hold up my hand for the queen mentioned on

page 431, that has her house supplied with stores while her neighbors have none. I shall not want many queens, however,—only two or three,—but would like the very best without regard to recent importation. The fact is, I won't have many Italian queens of any sort around my shanty until I can first see them decisively beat our blacks at honey-gathering—a little trick which they have so far omitted to do.

THE CLOVER EXPERIMENT.

Those late-sown clovers which were to be made to bloom this fall did, three of them, show bloom. They were all from clover No. 4. A little description of this plant in my last clover article was omitted, by a printer's "out," probably. It has pure white blooms, not even turning pink in fading, as other white-bloomed clovers do, but fading to yellow. Red-clover honey is tinted somewhat, usually, but we could hope for a snow-white article from such as No. 4. Not only is the bloom white, but the seed is of a creamy white. Quite desirable it would be, for an improved clover to be recognizable at once by the seed. The young plants of this sort make nearly twice as rapid growth as any other sample of clover I have. Although large, the stalks are not coarse and bean-poley, but rather finer than usual. But the crowning quality of No. 4 is its readiness to come up. All my other samples, nine in number, make me trouble by their unreadiness to sprout. Every seed of No. 4 seems as prompt to start as good sound corn would be. Hundreds of thousands of dollars being lost to the farming community every year by the failure of clover seed to "catch," this quality of No. 4 is a very attractive one. But alack-a-day! all good is not given to one. No. 4, at present, is rather *longer tubed* than ordinary clovers. I perceived this when selecting it, but resolved to give it a trial nevertheless. Shall we gain a clover that will give more hay to the acre, always catch when it has a decent chance, prove its own purity in spite of tricky seedsmen, and, withal, expose snow-white treasures to our delighted bees without let or hindrance? Ah, shall we? I had a disagreeable feeling that this must be from a stray seed of an already established variety of clover; but no, it is a genuine variant, or sport, as is fully proved by the three young plants that have bloomed. All three of them *revert* to the ordinary red of clover blossoms. If I do not get a young plant to continue the parent characteristics, it will be queer.

E. E. HASTY.

Bodley, Lucas Co., O., Nov. 16, 1879.

In regard to the shade, I think the grape-vines will prove least troublesome, all things considered, and with chaff hives no shade at all will be needed, unless you choose. The plan of condensing the moisture may be ingenious, but, if I am correct, in a properly constructed hive there should be no moisture to condense. We are all interested in the clover that is going to bloom the season it is sowed, and, in fact, in any improvement in clover; for clover is a great staple, aside from bee culture.

MORE ABOUT THE HONEY THAT PLEASED QUEEN VICTORIA SO WELL.

ALSO SOMETHING ABOUT THE 5 IN. FDN. MILLS.

I HAVE been using comb foundation for the past three seasons, and find it a *great success*. I also have sold considerable quantities of it. I purchased, I believe, the first 5 inch machine you sold.

For practical use, I think the 5 inch foundation preferable rather than that made by the 12 inch mill, from the fact that two pieces of the 5 in. welded together will not sag in the frames. This is not my experience only, but that of several very practical apiarians.

We have used it for the past 3 years, made by the mill I purchased from you, and hived new swarms on the same, in hot weather, with no trouble from sagging.

FOUNDATION STARTERS FOR COMB HONEY.

The honey furnished by Thurber & Co., for the Queen's table, was from my lot, in my fancy boxes, and built upon foundation made by the mill I purchased from you. Is not this making the use of foundation in surplus boxes a "grand success"?

I was about the only person who advocated its use for surplus honey, at the New York National Convention, and last spring received a letter from Capt. Hetherington, of Cherry Valley, wishing to know my particular method of using it.

The thin flat bottomed fdn. is far superior to use for surplus honey.

C. R. ISHAM.

Peoria, Wyoming Co., N. Y., Nov. 22, 1879.

BALLING THE QUEEN.

ALSO SOMETHING ABOUT WINTERING BEES.

DO bees ball any other than a strange queen? and what are their motives for so doing?

The following occurred with me, in an attempt to reinforce a colony of bees, Sept. 26, 1879: The colony was weak; cause, an unfertile queen. I obtained ten quarts of bees of a neighbor, and dumped them in the hive; about thirty minutes later, I looked at them and found a perfect slaughter going on inside the hive. I at once opened the hive, and found that I had added a black queen with the bees. The black queen was balled to the size of a goose egg, and by the same bees that I put in with her. I removed her at once and severed her head from her body, with my knife. I also found my yellow queen completely balled up, between two combs, and not a black bee called I find among those surrounding her. I then raised one side of the hive and brushed out about one quart of dead bees; the number was about equally divided between the black and yellow bees. This loss occurred within a period of 35 minutes after reinforcing them.

In about one half hour more, I looked again, and found that not over a score of bees had perished since the removal of one of the queens.

Will some one better acquainted than myself tell why such a deadly conflict should ensue during the presence of both queens in the hive, and subside so suddenly upon the removal of one?

I have had a somewhat similar occurrence since. Nov. 8th, my little boy called me, and said the bees were swarming. This I was certain was not the case, as I had put all my bees in good shape some time before. I repaired immediately to the apiary, and found a swarm of black bees settling down to one of my hives. As the new comers began to alight about the entrance, my bees rushed out in goodly numbers to drive them off. With open pocket-knife, I took my place beside the hive to watch for the queen. Very shortly, she lit, and attempted to enter, but the sentinel on guard soon put her to flight again. By this time, the bees had begun to alight promiscuously upon everything within reach. The queen shortly made her appearance again, alighting

this time on the top of the hive, but no sooner had she lit than the bees rushed at her, and caught her by the legs and wings; in fact, they did not seem particular where they got hold, so that each had his grip upon her. I killed the queen on the top of the hive where she had lit, and removed her body out of reach. The bees clustered where the queen was killed, and remained there until about sundown, when they pushed their way into the hives near by.

R. B. ROBBINS.

Bloomdale, Ohio, Nov. 23, 1879.

I have noticed pretty much the same thing, friend R., and have been not a little puzzled to know why bees should ball their own queen, just because some other happened, by some accident, to get into the hive. Bees do often, when demoralized by want of food, lack of numbers, or lack of protection, ball their own queen, as if she, poor thing, was responsible for all these things; and I have sometimes thought it was a kind of way they had of doing when anything unusual turned up. Why that murderous jack-knife, friend R.? I should take a queen cage, and put the offending queen into it, and perhaps some neighbor might want her.

Humbugs & Swindles.

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any time.]



BROTHER bee-keeper thinks I ought to be put in Humbugs and Swindles. He gives, as a reason, the following extracts which were taken from a letter from one of his customers. Very well; I am willing to go any where, where my friends think I belong:

You ask me where I got my five queens; I got them from Root, Medina, O., and he swindled me out of my money. He may be a particular friend of yours; if so, I can't help thinking that he is a fraud.

I ordered 3 for my neighbors, from Root last year. They were of no account, so I paid them back their money.

A. H.

Nov. 13, 1879.

Before replying to this, I wish to make a few general remarks. Where one succeeds nicely with a purchased article, he feels pleasant toward the man he purchased of, and everybody else; at least, such is the general tendency. If he has bad luck with his purchase, I believe he is usually inclined to feel cross toward the one who sold him the goods. Years ago, before I ever thought of selling queens, a neighbor who had just commenced to keep bees sent off for an Italian queen. I had been over to see him, helped him transfer, etc.; and one day, on meeting him, I asked him if his queen had come. "Yes sir; she came all right, is introduced, and laying."

"Well, neighbor B., you are getting to be quite an expert, if you are so far along already. Did you have no trouble in finding the old queen?"

"There was no old queen in the hive; we

looked it through and through, and knew there was none, and then introduced the Italian."

"And were you so reckless, as to risk letting her out, without finding the old one at all? She is surely killed."

"But we found fresh eggs, so she must be there."

"Why, friend B., those eggs were from the old queen that you had overlooked. I will go right over and find her for you."

Sure enough, there was the old black queen, doing her work, as if nothing had happened. Now for the lesson in human nature.

"Well, the queen was a swindle anyway; she was nothing but a hybrid."

"Why, friend B., why do you say that?"

"Well, I know by her looks she wasn't pure."

My friends, what do you think of that? Most of you know how little we can tell about any queen, after a long journey, and how much less we can decide whether she be hybrid or pure, judging from her looks.

Now, in regard to the letter above; I have looked up the correspondence, and here is a part of it.

Mr. Root:—The queens I ordered of you came to hand all right. I received them in just one week from the day I made my order. They were as lively as though they had not been confined and hustled around on the cars. They were fine queens. I introduced my \$3.00 queen into a nucleus, and thought I was doing all right. I confined them for the first day, and when I looked at them at night, I found them all dead. My hive was too warm. I smothered them all, and melted the comb all down. So much for the first trial.

I introduced the two \$1. queens, and they are all right, and doing well. The bees in this section of the country are not doing any good. There is no honey for them to get.

Tell me how late you send out queens. I am a beginner, and want some one to set me going in the right way. I want to get rid of the common black bees as soon as I can.

A. H.

I do not mean to insist that all of the queens I sent him were in no way in fault, for I do not know that positively; but, as they were dollar queens, they were bought with the understanding that some of them might not turn out first class. I know, too, that friend H. did not expect his letters to come up thus in print. I hope he will excuse the liberty, inasmuch as it may prove a good lesson for us all. We should beware about writing or speaking to anyone in a way we would not do to the individuals themselves. I can not see, friend H., why you should pay the money back to your neighbors, if you delivered to them untested queens in good condition. If I should warrant dollar queens to you and not to others, I should be doing an injustice.

TIN PAILS AND BOXES FOR EXTRACTED HONEY.

Some time ago I wrote you in regard to some tin boxes and pails for extracted honey, but did not receive any answer until I read it in the Dec. No. of GLEANINGS. I put my money up in 5 and 10 lb. pails, but had to pay considerably more here than your price. I have nearly sold out, having only about 200 or 300 lb. left, or I would give you an order. I still think those tin boxes would be nice, but it would hardly pay to give an order now with so little honey. It is only basswood honey that is fit to go into those tin boxes.

CHAS. OLIVER.

Springboro, Crawford Co., Penn., Dec. 11, 1879.

The "Browlery."

[This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule we will omit names and addresses, to avoid being too personal.]

YOU will remember I ordered the queens the 4th of June, and you kept me waiting for them till almost the last day of the month, which I do not think right. I should have been better satisfied, if you had sent enough only to cover the money received, and that at once. Your way of dealing is not just the thing, and you need not be surprised when I tell you, I am done with you, and cannot read your *silly bosh* with any gusto.

Yours in disgust, E. M. G.

Oct. 30, 1879,

Are you not a little hard on a body, friend G.? It is true, we did not fill all orders for queens promptly in June, and as we have never been able to do so, I have advanced the price for that month, on purpose to give us a little better chance to be prompt. You remember you did not send money in accordance with our advertised prices, and, judging from former cases of the kind, I thought best not to attempt to fill the order, until I had heard from you. Your reply unfortunately never reached us, but just as soon as you informed me you had written, I sent the queens at once, without the money. Would you, my friend, want to fill orders for queens, from utter strangers, without the money in advance? You wrote once, I believe, that they had done you but little good, for you had lost 3 out of the four we sent you. You surely did not mean to urge this as a reason why you should not pay us? I know it is very natural to want to feel cross at somebody, when we have had such losses, for it is one of my worst besetting sins, but have you not noticed that we feel a great deal better when we consent to bear our share, or a little more, thus closing the matter up pleasantly, and then resolve to look out next time? If, in your judgment, my ways of dealing have not been fair and honorable, tell me what amount will make it so, and I will try to pay it. I am sorry my writings have not pleased you, but, as people's tastes differ so widely, it would be rather strange if I should succeed in pleasing everybody. As I seem to please a great number, shall we not shake hands pleasantly, as it were, as we bid each other that final adieu you speak of?

Dear Sir:—I do not know as your patrons will complain, but I think you are a little selfish in not giving O. E. Coon's full address until you secure all of that *brag* seed to sell to us at a good profit. Now, I should like some seed of *him*, or I will go without it. And, still further: is it right for you to advertise and recommend things that are of no earthly use to anyone? For instance, that *file* with the notch in it, for setting saws. It was good for nothing; it crumbled all to pieces the first time I used it. Then that Adams' Horse-Power, price \$50.00, now piled with the waste lumber. When I wrote you to advise me about getting it, not one word did you answer. Now, in your destroying H. Alley's reputation in doing business, do you not think it will increase yours? Friend Alley is a very honest man (I judge), and expects everyone to be the same, and his trusted people all over the different States. You try for one year, and see if you can fill your bills more promptly than he does.

J. CHILDS.

Amherst, Portage Co., Wis., Dec. 8, 1879.

Steady, my friend. If you will read O. E. Coon's letter over again, you will see he refers to page 346, where his full address is given. I did not know until this minute that the address was not on both letters. How could we know your file was a poor one, when you had never complained? We send you another to-day. Tut, tut, friend C.; I gave a picture of the Adam's horse power, it is true, but I did not, in so doing, guarantee that you could make one that would be satisfactory to you. Because you threw yours away, does it follow that the idea was a bad one?

I beg your pardon if any letter or postal was allowed to pass by unanswered; but, friend C., as I have never had any practical experience with horse powers, I don't know how I could answer. I am very much obliged for the confidence the friends seem to place in my judgment, but even though I do know a little about bees, and machinery in general, there are a good many things (yes, and more too) on which my judgment would not be worth a straw. Are you not a little rough, about my trying to get friend Alley's business? If I wanted to sell all the queens myself, I should hardly be trying so hard to have others help supply the demand. I certainly do not wish to destroy friend Alley's reputation, but I do wish to have him take better care of his customers. To prove it, I will make this offer: in our May No., I will ask for the names of those with whom friend Alley has not settled satisfactorily. If none reply, I will give him an advertisement of 1 inch, one year. This is worth \$25.00 cash, and he has 4 months time, in which to settle up old accounts.

Ladies' Department.

PERHAPS, as I told you last spring how I started with my bees, you would like to know the result. I had twenty-five fair colonies when white clover came into bloom. I increased to 38 colonies, all in good condition for winter, and took about 1,750 lb. surplus—400 lb. extracted, and the remainder comb honey. I think even Mr. Muth, who seems so particular, would be satisfied with the straight combs of nice white honey, packed in my honey room, waiting removal to market.

COLOR FOR SHIPPING-CRATES.

By the way, I find pink an admirable color for shipping-crates. It gives a fine appearance to the honey. I do not think my bees gathered much from white clover; but they worked like little beavers on Alsike and red clover. Basswood did not yield much here, on account of the high winds which prevailed at the time it was in bloom, and, altogether, do not think it has been an average year for honey here.

MRS. ROSE THOMSON.

Cowlesville, N. Y., Nov. 25, 1879.

Very well done, indeed, Mrs. T., for a season that everybody is complaining of. If you succeed as well during good seasons, you will soon be among the veterans. I am very glad indeed to hear you have succeeded in getting nice honey in the sections. I wonder if getting nice comb honey is not especially woman's work; I believe the nicest filled sections I have ever seen were from an apiary belonging to one of our women beekeepers. Will Mrs. T. please send us a bit of wood painted with the shade she prefers?

SPRING Dwindling.

FRADENBURG'S PLAN FOR ITS PREVENTION.

I WILL now give my plan for prevention of spring dwindling, and, as I said in my former article, I would like to have as many bee-keepers as will, try the experiment that I shall propose, and report the result; then we can tell whether my theory is correct or not.

I will take some hives, like the Langstroth or your 1½ story that has a portico, and make a light frame that will just fit inside the opening of the portico, and cover this frame with wire cloth, and put it in place in the entrance to the portico. It can be fastened with light hinges, hooks, buttons, or any such device. Thus you see I will shut my bees up at home on all the cold, chilly days, but not shut them into the hive by closing the entrance. The main idea is to give them the benefit of fresh air, and sunshine when there is any, and a little chance to exercise their wings, but not to fly off and get chilled. Of course, I would not think of keeping the screen always closed. On warm days, after it gets really warm, I will open the screen and give them a fly once or twice a week, but be sure and know, before letting them fly, that the air is quite warm enough not to chill them. I believe there are many days in the spring, after the bees begin getting pollen and honey, when the loss of bees by flying out and getting chilled amounts to more than what they gain in stores. I expect some bees will worry about the screen, trying to get out, and die there; but I think not nearly as many as would die if the ordinary entrance to the hive were closed. Try, and know.

A. A. FRADENBURG.

Port Washington, O., Nov. 17, 1879.

While I think it very likely that many bees might be saved by a judicious confining of them to their hives, I am inclined to think a hive, with the entrance closed, without any portico, would be better. I have fastened bees in the hives while in the cellar, in just the way you suggest, but they came out and died clinging to the wire cloth. I have also confined them in that way while moving them in the fall, and during cool weather they would nearly all of them go back upon the combs. The more I think of it, friend F., the more I am inclined to think it would be an advantage in the hands of a careful bee-keeper who is always on hand at the right time. Remember, there will be many days in the spring when the morning gives every promise of a most favorable day, but about noon, perhaps, it will cloud up and the weather change so suddenly that you may lose great numbers of bees in spite of all the precautions you may take in keeping them at home.

SCOTLAND.

BEEES AND BEE-KEEPING IN 1879.

BEE-KEEPING, this season, has been a failure. Of all the bad seasons the present race of bee-keepers have had to contend with (and such seasons have been by no means few), the season of 1879 has been decidedly the worst. From all quarters, reports come to us of wholesale death and starvation among bees; whole apiaries cleared out, and not a single "ruskie" left to mark the place where, but a little while ago, whole colonies were toiling and

singing as bees only can. Even from the most favored spots in England, we have letters bemoaning the loss of whole apiaries; and little wonder; more tyrannous than Pharaoh of old, the wretched summer supplies no material for the poor creatures to operate on, though they wandered more widely and searched more diligently than did the brick-making Israelites. In the whole month of July, our best honey gathering month, there were not more than four good honey-gathering days; so rare were the "westlin winds" that "bring hame the laden bees," and so frequent the easterly winds with their sad drizzle.

We learn from correspondents in various parts of Aberdeenshire and the north generally, swarming has been the exception and not the rule. Swarming with us was about six weeks late and only from one swarm, a Ligurian, have we been able to secure any surplus honey, all the others needing their stores for self support. The working power of these foreigners is indeed astonishing, and their early habits are worthy of imitation. Our acquaintanceship with the Ligurians and our observation of their merits, have led us to decide on abandoning the old native race. No doubt the Ligurians are dreadful thieves, but their thievish propensities find little scope in a community where all alike are "tarry fingered;" or it may be the honor which is said to exist among thieves will make honest bees of the Ligurians, when all temptation in the shape of black bees and their stores is removed. Anyhow, since we Ligurianized our apiary, we find less fighting than with the native bees; and, besides the decrease in robbing and worrying, we find the honey yield of the Ligurians to be most certainly greater than that of the old race.

Returning from this digression into which the mention of Ligurians has led us, we would remark, how unfortunate it is that such a year should have overtaken us when the public had become really so interested in the subject of bee-keeping! Throughout the country, a keen interest in bees has been manifested, which a glance at the newspapers will amply demonstrate, shows and other apicultural matters finding a place among other items of news that the general public are supposed to peruse. This year, we have had noted apiarians from foreign countries visiting the exhibitions representative of this country's apiculture, America, Germany, France, and Italy, especially, sending delegates. What a pity then that we should be seen in such form by "chiels amang us takin' notes!" but worse than the weak front presented by the great gatherings is the fact, that some honey and bee shows have had to be entirely abandoned this season, and, when held, these local exhibitions have been almost minus honey exhibits.

All we now want in this country is a series of good years to place bee-keeping on a firm basis, as one of the regular industries, and to make good its claim to rank among the most profitable of them.

Parkhill, Aberdeenshire, Scot.

R. M. GREIG.

The "Christian Weekly" writes to one of our subscribers, as follows:

As to Mrs. Cotton, although we can not find anything positive against her, I think, in the future, we shall decline her advertising.

B. C. EVERINGHAM, Manager Advertising Dept.

It seems to me they find it a little hard to own up, that they have been in the wrong.

Heads of Grain, From Different Fields.

IN November GLEANINGS, I saw something said about the length of time that the eggs remain in the cell before hatching. I thought it was well known that they would hatch, even if over a week old. Last summer, I used the queen from a nucleus, and they failed to raise a new one from the eggs left, so I gave them a piece of new comb, about as large as my hand, taken from a new swarm, and every cell containing an egg. For 3 weeks it remained untouched, and then they built out the cells and capped them over for workers; but there was no sign of a queen-cell anywhere in the hive. Then I gave them a frame of old comb with fresh eggs, and in due time they had a new queen. I have frequently noticed eggs remaining a week untouched, and thought it common. Bees have done virtually nothing in this section except increase; and as much as half of the increase and a large proportion of the old stocks have not honey enough to winter on.

STEPHEN W. HALL.

La Moille, Marshall Co., Iowa, Nov. 27, 1879.

You may be right, friend H., but if you are it is something that has so far escaped my notice. Whenever I put eggs into a hive, after three days' time I have always found the eggs hatched into a minute larvæ, or spoiled for want of warmth or care; at least I can remember of no exception to this rule.

CELLAR WINTERING.

Send me one thermometer to hang in my bee cellar.

Now let us quarrel a little. Your chaff and cushion hives are not worth their cost to winter bees in. The best winter hive is a frost-proof room or cellar, then learn how to use them, and you have got the right hive.

I commenced the season with 70 swarms, increased to 145, and have taken 2200 lb. of honey. Bees were in the cellar on Nov. 20th, all in good order.

D. L. BULER.

South Fairfield, Lenawee Co., Mich., Nov. 21, 1879.

There are two conditions, friend B. You say "a frost-proof cellar," and "then learn how to use it." If I am correct, both of these are difficult to attain; so much so, that I think it safer to advise our A B C class to winter out-doors.

Mr. Root:—I wrote to you some time ago about shifting my bee-shed, and you advised me to shift the shed gradually. I could not do so, as the posts were in the ground; so I carried the bees into my cellar, and took down the shed and put it up again. Mr. Doolittle talks of carrying bees into a cellar without disturbing them. I can't do it; but my bees always act differently from other folks' bees. Other folks' black bees do not go on red clover; mine always do when there is honey in it. Other folks' bees (Italian) do not sting or rob; mine do, and they are good at it. So, as I said, I carried the bees into the cellar, Nov. 3d. It was too warm, and they kept up a roaring, night and day; so I had to carry them out to the new shed on the 15th, after they had been in twelve days. The shed was shifted thirteen or fourteen yards, back from where it was before. The 15th was a fine day, and, on opening the hives, how they did fly! it was a perfect jubilee with them. I think the only bees lost were a few who mistook their hives, and went into other hives. I had a good day to move them, and am thankful. I will not put them into the cellar again.

If you put the bees in the shed in the same position they formerly occupied, it is my opinion they would have made no trouble had you not put them in the cellar at all; for the shed is such a strong landmark they would have gone to it any way.

ITALIANS VERSUS BLACKS AS ROBBERS.

In September last, a girl came to me, saying that they thought one of her father's hives was being robbed, and wished me to go and see. Before I went I looked at all my bees, and found all the blacks as quiet as usual; but the Italians and hybrids, every hive where the bees had yellow on them, were going it in style. When I went to see the neighbor's hive which they were robbing, they were just tumbling over one another in handfuls, and all in yellow dress. I shut up the hive. They tried every part of it to get in, and then pitched into the next hive, *all there was of them*. It was a strong hive, but, if I had not shut it up too, they would soon have made short work of it. I waited till nearly night, then let the robbers out, and carried the hives into a dark closet and shut them in. Every spring and fall I have to make the entrances of my black bees small, so as to enable them to defend their hives. I used to think the black bees needed reformation, but they are honest in comparison with the others. All bee-keepers around me give them the same character. One thing more: I would advise bee-keepers to have all Italians or else all blacks. In spite of what Mr. Cook says of the twelve or fourteen points of superiority of Italians over the others, they are whittled down to a very small point with me, and with others around here also, even at the risk of being one of the unfortunates who delight in being contrary.

I do not despise the Italian bee, but think there has been an awful number of lies told about them.

The case of robbing which you mention, I think was one where the Italians discovered a hive of stores unprotected. In such a case they are ahead of the blacks, because they are more enterprising. It is almost universally agreed, that Italians will be laying in stores without trying to rob at all, at seasons when the blacks do nothing but rob, and accumulate nothing. I have often seen this state of affairs, when keeping both kinds of bees in my apiary.

BENEFITS OF FEEDING DURING A SCARCITY OF FORAGE, ETC.

When I told you of my feeding three swarms 29 lb. of sugar made into syrup, in September, I forgot to tell you that I fed it in eight days, and gave it to them at night. In the day time, they carried in a great deal more pollen than unfed bees, and, on the ninth day, I weighed them again, and carefully; they were just 22 lb. heavier, and there was no robbing. I suppose if I had fed it all in—say two days, the result would have been different; but, I suppose if I had fed it so quickly, and had weighed them eight days after feeding, the result would have been about the same. It will not do to feed a certain quantity of sugar and expect your hives to weigh just as much.

I think it is well established, that colonies fed every night, during a dearth of honey, will gather more pollen and rear very much more brood. A pound of sugar ought to produce a pound of sealed stores, aside from what is used for brood-rearing, and consumed by the inmates.

SIZE AND SHAPE OF STARTERS.

Some bee-men put a small bit of fdn., triangular in shape, into $1\frac{1}{4} \times 1\frac{1}{4}$ sections. Is that as good as more?

I do not know that the shape of the starter is very material, though it has been suggested that a triangular piece is nearer the natural shape. Bees will get along faster with a large-sized starter, but the base of the cells is more apt to be objectionable in the comb honey. With the very thin fdn. we are now able to make, I think it very likely that it will pay to have the fdn. fill the boxes.

VACANT CORNERS IN SECTIONS OF HONEY.

My bees leave holes in corners of sections; how can I get them to fill them up? JOHN DAWSON.

Pontiac, Oakland Co., Mich., Nov. 22, 1879.

Bees are more prone to leave these open

corners when the yield of honey is not very good; when honey is coming in rapidly, and they are crowded for room to put it, they will fill every cell, clear up to the wood filling the section-box with fdn., as mentioned above, seems to favor filling out the corners, yet does not insure it during a poor flow of honey.

UNSEALED STORES FOR WINTER.

I see, on page 496 of December GLEANINGS, that you ask if it is an advantage to use unsealed comb of honey to winter bees on, and if anyone has tried it. I have always advised and practiced having sealed stores when this is possible, but sometimes, when colonies are united and fed late in the fall, as queen-rearing nuclei, for instance, I have had them leave some of their honey unsealed; and if these were suitably packed, I could not see that it was an disadvantage. I had several colonies in this condition last winter, and they wintered finely. I suppose, under these circumstances, there is special need that the hive should be dry inside, which condition seems to be secured by the use of chaff.

A. B. WEED.

Detroit, Mich., Dec. 8, 1879.

ADVANTAGE OF BEING ALWAYS WITH YOUR BEES.

We have six apiaries on shares, in the country, and our own apiary at home. Apiary No. 1, at home, 6 swarms, gave 2,340 lb. of section honey, 130 lb. of extracted honey, and 41 new stands; but I had to kill the new swarms so as to feed the rest, to keep them over winter. It took all except 138 lb. in frames sold to neighbors to winter their bees on. Apiary No. 2, 41 swarms, gave 450 lb. of section honey, and 207 lb. of extracted honey. I killed the increase to feed the remainder.

Apiary No. 3, 12 swms,	A. Knupp's,	no honey,	6 inc
" " 4, 11 "	J. Shuler's,	" "	7 "
" " 5, 8 "	W. Yagel's,	" "	0 "
" " 6, 2 "	C. Tonhart's,	" "	1 "

So you see that those bees at home, with care, outstrip all the rest. This was the poorest year for bees for many years. Of bees that swarmed two or three times, I dare say six-tenths will starve before March. I know young swarms that came about the 20th of June that have not got 8 pounds of honey; I mean first swarms.

DYSENTERY IN THE FALL.

John Elliott told me, about three weeks ago, that, being in his apiary, he heard a peculiar hum of bees, and, on examination, found that it came from three hives. The bees were all on top of the frames, and when he uncovered them they began to fly, and had the worst dysentery he ever saw; so he killed them at once. What was the cause of dysentery in those three swarms, out of his apiary of 67 swarms?

HENRY KNUPP.

Warren, Penn., Dec. 6, 1879.

I have never seen a case of dysentery in the fall, such as you mention, and I can give no reason for such an occurrence, unless it was that these three had gathered stores from something which the rest did not find. An examination of the hives might reveal something else. How does the honey look and taste?

Mr. Root:—I should think you would get out of patience with us, for, every time we think of anything we write to you, as if we had made some great discovery, when perhaps it is as old as bee-keeping. By *we*, I mean the A B C class. In the first place, I have a chaff hive that is a little different in its construction from yours. Don't we all like anything we make ourselves a little the best?

LEGS TO HIVES.

Do you object to legs to a hive? I don't like to put them on the ground, for it must rot them so much faster.

Grand Rapids, Wood Co., O., Dec. 9, 1879.

I object to legs to hives, because it is so much harder for the bees to get in at the entrance. It is true, you can put a slanting board up to the entrance, but this, with the

legs, would be an extra expense, and it would be hard to keep the space under the hives clean and tidy. If the corner posts to the hives are rested on four half-bricks, and coal cinders are piled up just even with the bottom around the outside, the bottom will not rot; and, by covering all with a little clean white sand, we can have it all clean and tidy, without any lurking-places for spiders, toads, and other enemies of the bees.

HOPES NOT BLASTED, AFTER ALL.

Well, friend Root, I see you have got me in Blast-ed Hopes, but I have just begun to be encouraged. I have been keeping bees 25 years, and one year ago last spring thought I would make a business of it, and so you call me an A B C scholar. Well, I did read all of your A B C books, and then gave them away; I also read the A. B. J. and GLEANINGS, and many other books in that line; I also bought five colonies of Rev. Mr. Saulsbury. Those were nice bees. This has been my first failure in business, but then, maybe one needs to fall, so he may know how to rise. But, "On to victory!" so give me a good season and I will tell you a different story. My bees now are all packed in chaff boxes, with plenty of sugar to eat.

W. EMERICK.

Sumner, Lawrence Co., Ill., Dec. 6, 1879.

GOOD FOR AN A B C SCHOLAR.

Remembering the bees of my childhood's home, it occurred to me that bee-keeping would at least provide an occupation and assist in making our income larger; so I bought 6 stands last spring, increased to 24, and sold \$50. worth of honey. I don't know of any one else around here who has done half so well even in honey, while the great majority are not able to realize over 5 lb. of honey to a hive. Let me say, right here, that I consider that to your admirable A B C and to GLEANINGS, the credit is mostly due. Friend Sawyer and I exchange publications; he takes GLEANINGS. I have purchased some very fine queens of Messrs. Dadant and Hovhurat; among the best, a tested imported one, which has given promise of being extra good. Would you care for some of her daughters next year? I shall not expect any of my queens to produce hybrid workers, and will make all such good. The neighboring bee-keepers have already given me orders aggregating 250 queens; I intend raising about 501.

I shall send you, before long, a design for a bench to make hives on, as so few are able to get out the stuff in good shape by hand. I think you will like it; I know I do.

ANSWERING LETTERS MYSELF.

I have written you a long letter, and wish you would answer it yourself, even if it waits a week; I would feel better satisfied.

T. L. VANDORN.

Omaha, Nebraska, Nov. 3, 1879.

We shall be very glad indeed, friend V., to see your plan of a work-bench. I have often thought of something of the kind for bee-keepers.

In regard to my answering letters individually; it seems hard to refuse so simple a request, and since so many have made it of late, I think I shall have to tell you why I can not well do it. I have learned by experience, that it is far better for me to have each letter answered the day it is received. If I commence laying them away until some better time, a pile will accumulate, and I shall have them lying on my conscience and worrying me every day for months it may be. Well, after reading a letter through, as I always do everything you write, I am better prepared to answer it than then I ever shall be again, for it would be a great waste of time to read a letter more than once, and enter into the spirit of it, and get acquainted with the writer, as I always try to do. Now, I do not answer letters at all; in fact, I have been absolutely unable to answer the kind letters I have received from my own broth-

ers and sisters, for years past. This is what I do: I have a lot of lead-pencils sharpened up to a keen point just like a needle. As I read your letters carefully, weighing each line and sentence, I use these fine-pointed pencils to indicate to the clerks, between the lines or words, the outline of their answers. The words I put in, at the proper point in the sentence, are something like this: "Yes; no; perhaps; probably; O. K.; can't promise; see A B C; see price list; accept his proposition; do all he asks," etc., etc.; or, in cases which specially demand it, I often write more at length on the margin of the letter. From these pencillings the clerks write the answers, and, before the cards and letters are mailed, I read every one carefully, and, with these same fine pencils, amend or correct the replies. As soon as a pencil gets worn so it is not fine, I take another, and, when all are dull, have them all sharpened again. Now, to do even this, for all of you, I have to economize my mental powers to the utmost. After working an hour or two hours at the letters, I take a run over the grounds or through the rooms, and see how the boys and girls are doing, and this alternation of duties is generally kept up from before 6 in the morning until after 9 at night. It is true, I decide many difficult points on pretty short notice, but I am obliged to decide hastily or not at all. My type-writer is used only for my work on the journal, such as I am writing now, and it is in use the greater part of the time. I have made this explanation, mainly that you may not scold, and call me unfriendly, when I do not reply to you personally.

HOW I INTRODUCED A QUEEN ON DEC. 1ST.

Having one stand of black bees yet, and two swarms of Italians that were not as large as I wished, I determined to Italianize the blacks and unite the Italians. So I removed one Italian queen and united the two Italian swarms by smoking them; then I removed the black queen, and smoked the bees and queen thoroughly, then lifted a frame of bees out, and placed the queen among them. Some began to feed her; others, to bite her wings and legs; one tried to sting her, and I took him by the wings, held him out and smoked him, till he promised, solemnly, never to sting anything again. I watched them a few minutes, and saw that they were not going to kill her just then, at least. I then placed the frame in the hive and closed it, and kept a watch on them, but the queen is there to-day, and all right.

FRIEND ALLEY AND HIS QUEENS.

As a great amount of talking is being done in regard to Alley's business transactions, and about his queens duplicating themselves in their queen progeny, I have this to say: Two years ago last August, I sent to him for one, "dollar" queen, and last March or April, I sent for one tested queen to be sent as soon as possible. The first came promptly; the second, some time in July. Both are very yellow queens, but small. Neither one will duplicate herself. I have raised but two queens from the tested one, and they are nearly as black as black queens, and both produce hybrid bees. How is that, when a man orders a queen that the breeder can swear by, and when one was wanted for the purpose of breeding yellow queens?

Are you not mistaken about friend Alley's agreeing to warrant his queens to duplicate themselves? I did not know that anybody offered to do that.

ANTS VERSUS QUEEN BEES.

Under the above head, Mr. Geo. B. Peters, of Council Bend, Ark., writes in regard to ants killing queens; that ants will kill queens and also worker bees I know, from observation, to be a fact. I once

obtained a queen and about a dozen worker bees in a cage, with a sponge containing honey for food. It being too late to introduce them, I placed them under the quilts, in a strong stand of bees, that they might not be chilled. Upon going to them in the morning, I found the queen and nearly all the workers dead, with ants still clinging to their thorax and feet. Again, a friend of mine sent last summer for a fine tested queen. She was shipped in a candy queen cage, and arrived late in the evening. He placed her on a shelf in the kitchen until morning, intending then to introduce her. When he went for his queen, he found her in the agonies of death, with ants still clinging to her. This I saw myself. I have often taken bees and queens, and placed them among ants, when they would be immediately attacked. That ants do any harm when clustered about a colony of bees, I do not believe; but when they are disturbed, they annoy the bees by running among them. I can always drive ants away by placing bruised walnut leaves in the hives where ants cluster.

Clarks, O., Dec. 8, 1879.

J. A. BUCKLEW.

I do not know but that I shall have to give up in regard to the ants. It seems that queens should, at least, be kept out of their way.

CLOVER SEEDS; ALSIKE, WHITE DUTCH, AND COMMON WHITE.

I sowed some of both kinds of white clover, and some Alsike clover seed, on ploughed land, without any other seed. I mowed them once to cut off the heads of pigeon grass. Some of the Alsike stalks grew 2½ ft. long, and blossomed some. There was not much difference between the two white clovers. Both grew very large and blossomed nicely. They all spread tremendously over the ground.

I think either of the above clovers will be good to mix sparingly with other grass seeds, to sow on any grass lands. They will keep out the moss, and make hay, feed, and good honey.

Hudson, Wis., Dec. 2, 1879.

WILLIAM MARTIN.

I was not aware, friend M., that common white clover seed could be procured in the market. Our seedsmen have invariably told us the only kind they could buy was the white Dutch. Where did you get what you had? and what did it cost? I am glad to see, by your report, that you have succeeded so well with the clovers. It seems to me, with the demand for seeds of these clovers, they ought not to be so high. Bee-keepers could certainly make it pay to raise them on good soil, and the seeds would pay all expense of cultivation, and leave the honey they produced a clear profit. No one should undertake it, unless he can give us nice, clean seed, without the possibility of any Canada thistle seed in it, or anything of the kind. Wake up, boys, and raise us clover seeds at a less price, and show us what a nice show of blossoms you can make for the bees. It is impossible for us to raise, on our honey farm, a tenth part of what we sell.

INTRODUCING BY SPECIAL METHODS.

Friend Root:—Last August, I had to go 30 miles from home into Howard Co., and be absent 2 months. I did not know about going until 2 or 3 days before I started and had ordered a lot of queens from H. Alley. Ten of them came while I was away, but I had engaged my friend and neighbor, Capt. J. H. Raleigh, to introduce them. Capt. Raleigh is an experienced and practical modern bee-keeper. I directed him to use the Betsinger cages that I had in the honey house. The cages were used, and the whole *modus operandi* was precisely as directed by Mr. Betsinger, or Prof. Hasbrouck, in *B. K. M.*, and just one half of the queens were lost.

R. F. WIER.

South River, Anne Arundel Co., Md., Dec. 9, 1879.

This goes to verify what I have so often told you, my friends, that no plan or cage can be relied on, without special and constant supervision.

I am one of your A B C class and a beginner, and want some of your advice. We began last spring with 3 stands in the old box hives.

ANOTHER HIVE FULL OF HONEY AND DIDN'T KNOW IT.

One was in an old tea chest. After they stopped swarming, July 22d, I transferred them to an L. hive. The neighbors all said that they would not store any honey after the first of July, so we did not pay any attention to them, and the first we knew they had all of the upper story stored with comb and honey. Shall we take it off this fall, or wait until next spring?

Friend T., I should recommend you to look to your bees, and see if they are getting honey, no matter what the neighbors may say. Take off the upper story, and take out the honey. If the bees have not enough below, give them what they need, and then fill the upper story with chaff or the chaff cushions as I have so often told you.

WHAT TO DO WITH A BARREL OF BEES.

I have bought a barrel of bees; what shall we do with them? Shall we thatch them in straw and let them stand, or brimstone them, as the neighbors do?

If your barrel contains a strong colony of bees, thatch them with straw, as you suggest. If the colony is weak, I would manage to get chaff cushions inside the barrel, in some way, so as to fill the great amount of unoccupied space around and near the bees.

BRIMSTONING BEES, AN INFRINGEMENT OF THE LAWS OF OUR LAND.

At the last National Convention, the editor of the *Magazine* read a paper that shows pretty conclusively that any one who brimstones bees is liable to prosecution by law for needless cruelty to animals. I feel like tendering thanks to friend King, for bringing the subject prominently forward. Of course, we do not claim that starvation is any better. A man who would let a horse or cow starve would probably be arrested in almost any community. My friends, shall the little bees, whose comfort and safety seem to devolve particularly on us, be less protected by the laws of our land than the horses and cattle? Go on, friend King, and let us wake up the readers of the bee journals, at least.

BEE HOUSES.

I want to build a bee house. How large should it be to hold from 50 to 100 stands?

The term bee-house is rather indefinite. If you mean the ordinary open shed, I do not believe you want one. If you mean a house to winter them in, a house 8 by 10 and 8 feet high inside will be about right, but I do not feel sure that you want one of those either. If you mean a house apiary, see page 234, last year's GLEANINGS, and A B C, part I. I am not, at present, *positively* sure you want a house apiary. They are nice to winter in, and we get better crops of honey from them than perhaps by any other method; but, as yet, there has been no way devised for making it as pleasant to work in them, as with the out-door hives.

Ten of our neighbors keep bees, and not one of them has had any honey this year. They all keep them in box hives. I am not quite ready to go into blasted hives yet.

L. TERRELL.

North Ridgeville, O., Nov. 22, 1879.

ALIGHTING BUSHES AND TREES.

In answer to friend Hasty (page 415, Oct. No.), I would say that of 11 natural swarms which issued from me this season, 3 clustered on a lilac bush, 1 on an elder berry bush, 3 on peach trees, and 4 on a

grape arbor (on the arbor not on the vine). Other trees close by the hives were apple, pear, plum, cherry, quince, and maple.

ROOFS FOR HIVES.

After reading W. E. Flower's letter, on page 451, Nov. No., and your answer to it, I thought that perhaps you might like to hear my experience with the roof to the 1½ story hive. I bought 50 from you last spring, and, after a season's experience, I say unhesitatingly that it is an impossibility to put them together so that they will turn water when exposed to the weather. The trouble is that the roof boards will "go and come." This breaks the paint where they join the ridge board, and then a dashing rain beats in at the joints in quantities which would astonish you. I kept the edges of the enameled sheet raised all round a little, and have poured a half pint of water off from it, that came through the roof from one shower. I took the stuff for 10 covers and dried it until it would not curl when exposed all day to an August sun, then put them together with the greatest care, filling the joint with white lead and painting thoroughly; but they all leaked in less than a month. All my hives are now covered with old boards, and have been for a long time. I must make entirely new covers for them this winter, unless you can tell me some cheaper way to make the old ones tight, for a leaky hive-roof is an abomination. I am not writing for the "Growler," but because I presume you want to know the defects in your hives.

M. FRANK TABER.

Salem, O., Nov. 20, 1879.

To be sure I want to know the defects, and I am very much obliged to you for your report of your faithful experiments. We are now making all of our story and a half covers in the way friend Baker described in the last number; that is, fastening the lap with screws. We have credited him with GLEANINGS for 1880 for the idea. What shall we do with the leaky covers to hives we have sold?

In the spring, I commenced with 11 colonies of bees, in Simplicity hives, and increased by natural swarming to 22. The least comb honey obtained from any one colony was 24 lb., and the most 65 lb., all basswood honey, in pound sections.

Bees are all in good condition for winter, with plenty of young bees and honey. Bees gathered honey from aster bloom quite lively up to the 23d of Oct. The queens I received of you, in Sept., have their hives lined with nice, yellow Italians. When I ordered the extractor, I did not expect to have any use for it this fall, but have extracted nearly sufficient honey to pay for it.

WM. FARMELEE.

Bean Blossom, Ind., Nov. 17, 1879.

A CLEAR CASE OF BEES BALLING THEIR OWN QUEEN.

A few weeks ago, I went to a nucleus hive, to take away their queen, and introduce her to another stock. It had not been opened before for more than a week, and I at once found a ball of bees near the lower edge of a comb, as if they were holding a queen. I dropped the ball into a dish of water, and, sure enough, they then released a queen, and I believe she belonged to that same hive, as I knew her by her particular form and color. She was raised from a cell I had put in that hive, and had been laying about two months. She was very small but a bright yellow. I had seen her quite a number of times, and I just thought I would know for a certainty if she did belong there or not. I successfully introduced her to the other stand, then went back and examined the combs of the nucleus. I found some capped brood and a few newly laid eggs, but no larvae or queen. I watched the hive closely, and in an hour or two the bees were running about as if hunting for their queen. I looked over the combs twice after that for a queen, but in vain. After 3 days I united them with another stock. Now, why did they ball her? All had been quiet, no robbers in the hive, and they had not had time to ball her from any fright, by my opening the hive. I did not have smoke, and it was not, probably, more than 5 seconds from the time I got to the hive, until I saw the ball.

A. A. FRADENBURG.

Port Washington, O., Oct. 17, 1878.

The bees balled her because they were dissatisfied with so small a cluster, I think; the

fact that there was no larvæ in the hive seems to indicate that they were dissatisfied, and would not take care of the eggs.

WHEN DOES THE QUEEN CEASE LAYING?

Now, Novice, I want to ask a question: How early will the queen cease laying if the bees crowd her with honey? I had a strong swarm that kept their drones very late. On the 12th of October I examined and found no brood but all the frames filled with honey. What shall I do?

I have seven stocks in Simplicity hives. I intend to winter them all safely; one out of doors, the others in the cellar. If I am all right in the spring I will tell you. I have doubled up some in Simplicity and some in American hives. The last queen I got from you was a failure, I watched carefully, but the crazy things killed her. The other two did well.

CARPET FOR COVERING THE FRAMES.

I use, for covering the frames in Simplicity hives, nearly worn out tapestry carpet, the wrong side next the bees, and don't want anything better. It turns up anyway you wish, and affords escape for the moisture in cold weather, and is warmer than either oil-cloth or slats. The season here on the mountains has been the poorest I ever knew for honey; yet my bees have nearly all honey to spare, and I greatly prefer just enough honey to too much, for bees in the cellar. I have always found bees to breed faster in the spring by feeding; or, if they have capped honey, to uncup small patches every few days. In preparing American hives for winter, I take out a frame and leave the space open, or fill it with an empty comb, with a narrow top. A. M. MILLS.

Clearfield, Clearfield Co., Pa., Nov. 18, 1879.

The queen will stop laying when the flow of honey ceases, usually; and even if fed, they usually stop at the approach of cold weather. If, however, the food contains the pollen element, and is fed in such a way as not to allow the escape of the animal heat of the cluster, a strong colony may be kept breeding almost, if not quite, throughout the entire winter. My own experiments, and those of Mr. Langstroth, given through the GLEANINGS last winter and spring, have pretty thoroughly demonstrated this.

THREE REMARKABLE QUEENS.

I have three remarkable queens that I propose to give you a short account of.

HOW OLD MAY A QUEEN BE, AND STILL BECOME FERTILIZED.

The first one led off a swarm on the 12th of July. I noticed she did not become fertilized in the usual time, and I gave the bees a sheet of brood, from which they started several queen cells, and capped them over. For several days, the queen did not appear to notice them; but about the first of August, I opened the hive and found all the cells torn down. I looked up the queen, but she was not yet fertilized. Again, about the 6th or 7th of August, I noticed her, and she had grown considerably; on the 10th of August, she was fully grown and fertilized; and on the 12th, she was laying. She was, at least, a month and 6 days old when she began to lay. I have the writings of the immortal Langstroth, Quinby, Cook, and Root, and in none of these do I find a parallel to this queen. Please give us your ideas.

Thanks for the item you furnish, friend S. If you will look on page 154 of a late issue of the A B C, you will find that I mention having queens that began to lay after they were 25 days old. If your queen led out a swarm the day after she was hatched, it would be nothing very unusual, and she might even do it the same day. I have mentioned, if you recollect, seeing a queen take wing the very minute she was cut out of a cell. In that case, your queen was not more than 5 or 6 days older than the one I have mentioned in the A B C.

A HYBRID QUEEN THAT GROWS PURE AS SHE GROWS OLDER.

The second queen to which I call your attention was hatched in an artificial colony, on or about the 20th of May, became fertilized about the 6th or 7th day, and began to lay in 2 or 3 days afterward. I noticed that she was a very short and thick bodied queen, and somewhat dark. She was quite prolific, and when her brood began to hatch, I saw that she was a hybrid. In July, one-third of her brood was black. I noticed a great improvement in the second and third batches of her brood, for nearly three-fourths of them were nice three banded bees. She continued to lay till about the first of October, and, if the last batch of brood she raised had the first black bee in it, I failed to find it. She may produce some black bees in the spring, when she begins to breed again, but my opinion is she will not; for I believe she was first a hybrid, but has become a pure Italian queen. If you can do so, rise and explain all about her, or step down and out, and let the next try.

I should explain this case, and other similar cases, friend S., by suggesting that the queen first met a black drone, and afterward an Italian. That queens do very often go out twice for fertilization has been demonstrated by many testimonials. I will cheerfully step down and out, for any one who has any other explanation.

STILL FARTHER ABOUT QUEENS THAT ALWAYS KEEP A LAYING DAUGHTER WITH THEM.

The third queen led off a swarm early in April. It was a very large swarm, and I gave them several sheets of comb already drawn out, so the old queen began to lay at once. About the 4th day, I opened the hive, and, to my surprise, I found several queen cells started, some of them nearly or quite half finished. I was quite sorry, for I supposed the old queen was dead. I looked through the hive several times, and could not find her, but before the young queen had time to hatch, I found the old queen on one of the outer sheets of comb depositing eggs. You may guess I was both glad and surprised. The young queen, in due time, hatched out, and made general havoc with the remaining cells. I waited until she became fertile, and sold her to Dr. J. S. Wilson. The bees began immediately to construct other royal cells, and I have sold three queens from that hive, and they have raised the fourth one, and she and the old one seem to be on the best of terms. The old queen appears to be as vigorous and active as she was a year ago. I have been managing bees for upwards of 30 years and have never found three cases parallel with these. A. S. SMITH.

Atlanta, Ga., Nov. 13, 1879.

Your last, friend S., is a very valuable contribution to the number of cases mentioned lately, showing that we may have queens that will always keep a fertile daughter in the hive with themselves, and that we may therefore raise queens for sale without having a queenless colony at all. If the queen is a full blood Italian, she is worth, I should say, at least \$10., to raise queens from. These reports seem to indicate that such queens are not so very scarce after all. If we could find one whose workers, at the same time, had the desirable quality of gathering stores in the fall, like the one we are going to raise queens from next season. she might be worth—well, considerable, if not more. Who will be the first to find such a one?

AN OCTOBER SWARM.

Mr. Root, I had a swarm of bees Oct. 13; in two weeks I found sealed brood, larvæ, and eggs.

WINTERING BEES IN A CELLAR.

I have wintered my bees for five seasons without losing more than two in a season. Last winter I had 121 swarms in the cellar, from the 10th of Nov. until the 24th of April, and only one was lost. They came out dry and free from mold and strong with bees, but during the spring, I lost 12 stocks. Some were

robbed, and some were queenless. I can winter a swarm on 12 lb. of honey. E. M. KELLOGG.
Croton, N. Y., Nov. 22, 1879.

So it seems to be the springing, friend K., rather than the wintering that troubles, when they are kept in cellars, as well as when left on their summer stands.

The following comes from the Mt. Carroll Seminary:

KEEPING BEES WITHOUT TROUBLE.

We contemplate trying "Bee Culture" in the spring, and want to get at the most reliable information. If we could keep them in a house, and never have any trouble with their swarming, we would not hesitate. We want the bees and the honey, but do not want the trouble with their swarming. Please refer us to the best information on this point.

F. A. W. SHIMER.

Mt. Carroll, Carroll Co., Ill., Dec. 2, 1879.

I presume, my friends, you will find plenty of advertisers of patent right hives, who will tell you that you can keep bees in their hives, without any trouble from swarming, etc. I shall tell you no such thing. I do not know how any body can keep bees successfully, without trouble, or at least much care, and unexpected difficulties will come up almost constantly. If you keep bees for box honey, you are always liable to have swarming, and must expect it. If the honey is carefully extracted before the hives get full, you will have much less of it. If you rear queens for sale, and keep all your stocks weak by division, you may escape swarming entirely, but I know of no other way. Now after all I have said, I will add that there are those who are so much in love with bee-culture, that they consider all these troubles and difficulties only fun, and it is this class who will probably succeed.

QUEEN DEAD AT THE ENTRANCE.

I lost my queen by introducing, but Hopkins was successful with his, and the hive was half full of Italians; but, yesterday, he sat looking at them, and you can imagine his chagrin at finding the queen dead before the hive. Now the question is, what can he do to save them, at this season of the year? The hive is extra large and very full of bees and honey.

I am inclined to think, friend H., that there was another queen left in the hive; if you made an examination, you probably know. Where a queen has been laying in the hive, and I find one before the entrance, I always expect to find another in the hive. I do not remember of any exceptions to this rule until the present season. This fall, we have found quite a number of imported queens dead at the entrance, when there were no young queens in their places, in the hive. Very likely this was occasioned, in part at least, by the death occurring at a time after the queens had stopped laying in the fall.

FEEDING UP A SEPTEMBER COLONY.

I have a case to report to you. Sifert, a neighbor of mine, had a swarm of Italians cluster on an apple-tree, the 12th of September, and, it being late in the season and so dry, all the old bee-men told him he could not save them. For the sake of experiment, we put them in a hive, gave them some foundation, and some empty comb, and empty frames. We gave them coffee A sugar syrup, and they went to work on the empty frames and built comb out of the syrup, which is white sugar comb and nothing else. They have built 4 large combs and are drawing out the foundation, and breeding fast. Is not

that doing well? If they live over winter, I will report. M. T. HOBBS.

Middleport, Meigs Co., O., Nov. 29, 1879.

I think it is doing quite well, and it is mainly because they have been carefully fed and attended to. The colony will be very apt to turn out one of the best you have.

WILL ITALIANS PREDOMINATE IF LEFT TO THEMSELVES?

About the year 1865, the Italian bee and American patent hive fever swept over this country, and nearly every bee-keeper had the most of his bees transferred into the American hive, and Italian queens introduced. The queens were said to be imported; but, as the vendors transferred a colony and introduced the queen for \$5.00, I hardly think they were imported. Well, every one thought they had done all that was required to make bee-keeping a success, so they did no more, except to hive the increase, and take off honey, etc. There has, to my knowledge, been no more Italians introduced into this part of the country, except one tested queen in 1878. This was 4 miles or more from my apiary.

About the year 1870, my grandfather gave me a colony of the yellow bees (this was my start; I now have 10 stands in Quinby hives), and now, 14 years from the time the Italians were introduced, I have one queen that produces a fine quality of Italians. Fully one-half show pretty clearly the three yellow bands, and the other half show two. I have seen none without two yellow bands. The remainder of my colonies all show plain marks of Italian blood, according to the rules in A B C. Now, with me, the question is, how long will these bees show the Italian blood if let alone? I don't think it will ever leave them entirely. T. J. COOK.

Newpoint, Ind., Dec. 1, 1879.

This is an interesting point, friend C. It is my impression that the Italians will eventually take the place of the common bees, even if let alone. I judge so, from seeing so many beautifully marked Italians among the wild bees in the woods, and we frequently find as nicely marked Italians in bee trees, as we can get from any apiary. The fact that the Italians will thrive where the blacks starve will, without doubt, enable them, in time, to almost, if not entirely, supplant the natives, even if both races should be let alone.

WINTER PASSAGES, AND HOW TO MAKE THEM PERMANENT.

Friend Novice:—I have bothered myself a great deal about winter passages through the brood combs. I think them necessary, and want a permanent passage. I rejected an upright of wood with holes through it, because it took up room; tin and wood thimbles won't do, because the bees will nibble at them; to make the holes every fall, with a sharp stick, is a great deal of trouble; besides, if they are made too early, the bees will shut them up in a few days. Now, I have struck an idea. If we are going to use wired frames, and they must have a support in the center, why not make it of a piece of wood $\frac{3}{4}$ full by $\frac{3}{4}$, and have three or four $\frac{1}{4}$ in. holes in it for the bees to pass through. This would give us a permanent winter passage, and there will be no forgetting to make holes in the combs. Besides, in cool spring weather, the queen, in her egg-laying rounds, can pass from comb to comb right through the cluster. What do you think of the idea?

I have a machine which I have used for years, that I think a great deal of, and don't see how I could get along without it. I call it an uncapping-box. I have never seen one described, so I will just offer mine as a sample to work from.

SCOVELL'S UNCAPPING-BOX.

For an L. frame, I make a shallow box, 10 in. wide, 18 in. long, and about 6 in. deep. The lid is hinged to the box just as you have seen pocket looking-glasses hinged. When the lid is raised up in position, it makes a support for the comb. The bottom of the comb-frame rests against a cross-bar. In uncapping, you draw the knife downward, and the cappings roll ahead of the knife and fall into the box. Put a strainer, near the bottom of the box,

and a faucet on one side, and you have the thing complete. When the uncapping is done, the knife can be thrown in the box, the lid closed, and everything is secure from dirt or robber bees.

AN IMPROVEMENT IN WABBLING SAWS.

I suppose that you have noticed, when using wabbling saws, that the board sometimes takes a notion to wobble as well as the saw. A few days ago I had some grooving to do on long boards, and they would wobble in spite of me. So I began to study up a plan to make them run steadily. After a great deal of hard thinking, I struck on the following plan: By using three saws (two straight ones and one wabbling), I got the thing that I wanted. The straight saws act like the spurs on a cutter-head, and carry the wabbling straight through the work, knot or no knots. This is the best arrangement for cutting hand-holes in hives that I have tried. H. SCOVELL.
Columbus, Kan., Dec. 5, 1879.

I, too, friend S., have bothered about winter passages, but have come to the conclusion to cut them every fall, or, at least, all that the bees have closed up during the summer. Your plan will do nicely, but the bees persist in leaving that stick bare in such a way as to cause so much waste room, that I would far rather have the bars of tin, shown last month. In the L. frame, we have two winter passages, about six or seven inches apart. The uncapping-box will doubtless be found very convenient by many, and the wabbling made with three saws, I know, will be quite an improvement. I am sure, friend S., that no one but you has ever thought of such a thing before.

FROM 3 TO 60, IN 3 YEARS.

Friend Root:—Please count me in the A B C class, although with a gray beard. In the spring of 1876, we had 3 colonies of black bees in box hives, now we count 60. As I had to live when they gave a swarm that year, I became much interested in them. I think much of my bees, but I hope I do not worship them, for that javelin of theirs is for some good purpose; yet, with the use of a good smoker, they may be successfully handled. But few here keep bees except in box hives, and many swarms go to the timber every year.

A SUCCESSFUL DECOY HIVE.

In 1878, I fastened a box in a tree, about 30 feet high, and a swarm took possession of it, and remained there until mid-winter. They were taken down while the mercury stood at zero, and placed by the south side of a house. In May they were quite strong, and gave a good swarm this unusually poor year. How is that for chaff packing?

Last winter and spring was noted for a heavy loss in bees; some froze up and smothered, and some starved because too cold to get to the honey; but the greatest loss was by dysentery and spring dwindling, or from a cause unknown here. Last fall, the bees did not get a late fly, and it was about Christmas time to them, at Thanksgiving. This year, the bees got a good fly on Thanksgiving day, also on Dec. 1st. I hope they will be the better for it. Success to GLEANINGS and that honey-garden.

Limerick, Ill., Dec. 4, 1879.

E. PICKUP.

INTRODUCING CAGE FOR COLD WEATHER, AGAIN.

I have just got out of humor, and will complain some, for I see that you have gone and given Will the credit of my invention (the cage described on page 470 of GLEANINGS). I have used that cage for two years, as my neighbors know, and wrote it up to you more than a year ago. I use a wire to suspend it in the hive, and thus can put it right among the brood where the queen will be sure to keep warm. I also make both ends as corks; the one at the end where the candy is, is made of wood and hollow, so the candy is safe from the bees outside of the cage; so also the end which holds the bottle. If you like, I will send you one. I do really think that, after going to the trouble of writing you about it, I should have had the credit of it; but don't be afraid of my ever bringing any suit against you for it, for I do not expect to get it patented.

I beg pardon, friend K. Since you speak

of it, I believe I do remember such a letter, and as I did not realize the importance of such an arrangement then, perhaps, I allowed it to pass by. Please send me a cage.

THE CARTOONS.

One more complaint, and I will put the stopper in my ink bottle; I would rather you would cut "Cartoon" short, and put in its stead, some one of those good pictures which you say were crowded out.

Now, friend K., I thought the cartoons would enforce lessons of care and neatness when nothing else would. From what others write, I am inclined to think the majority do not agree with you.

EXTRACTORS WITH A VERTICAL MOTION TO THE CRANK.

Do you ever make any extractors with vertical motion to the crank instead of horizontal? it certainly is best. I will need one next year.

We have never made any in that way, and feel sure the greater part of our friends would find them less handy, if not inconveniently in the way, but we can make them thus, when wanted, for about 50 c. extra.

A pocket compass rigged with a clamp to attach to a common carpenter's level and plumb is what I think C. M. Reed wants; it should not cost more than \$2.00, and I think one could be got up for \$1.00.
Vevay, Ind., Dec. 8, 1879. M. G. KEENEY.

COMBS OF SEALED HONEY FOR FEEDING.

I want to ask your advice about using the extractor. I have taken about 20 frames all nearly full of capped honey. I want to use those combs to build up new swarms next summer. When should I extract the honey? My bees, except one stock in a Simplicity hive, have plenty of honey until spring, when I always take out nearly all the honey left, and feed syrup, or uncapped some of the honey every day or two in spring. How would I better feed my weak swarm? They are in the cellar with 12 other stocks.
Clearfield, Pa., Dec. 4, 1879. A. M. HILLS.

Do not extract, by any means, friend H. I would give 2 cents per pound more for the honey as it is, in the combs, for feeding, than I would after you had uncapped it and thrown it out. Full combs are better than money in the bank, for new swarms, for they can go right to work in the surplus boxes, if they have full combs to start with. Give the swarm in the cellar, which you say needs feeding, a comb or two of this sealed honey, as they need it, and by no means think of feeding them liquid honey, when you have it already sealed up in the combs. Do not uncapped any for them while they are in the cellar; but next spring, say in April, if you wish to push brood-rearing, uncapped some of their honey, as you suggest. If you prefer extracted honey, I would still leave this in the combs, and do no extracting until honey comes in next season, and you are sure you will have no feeding back to do. I do not know of a much greater blunder made in bee culture, than to uncapped and extract honey that you will be obliged to feed back, to be capped over again. There is no feeder in the world equal to combs of unsealed stores.

EXTRACTING IN NOVEMBER.

I am finishing extracting honey this week. Rather late, you say. Well, so it is; but remember we have no winter quarters here. Your extractor gives entire satisfaction. I have used one of your old smokers two years, and it is pretty good yet.

O. R. FLOURNEY,

Belmont, Gonzales Co., Tex., Nov. 24, 1879.

STILL MORE ABOUT TWO QUEENS IN A HIVE.

I made some bee-candy by the A B C receipt. It was several days in hardening. I got a barrel of grape-sugar, and want to do something in the spring.

I had 4 hives this season, that had 2 queens in each. I removed the black queen where I introduced the one I got of you, and in about 10 days afterward, I removed the Root queen, and looked for royal cells, but found none. Then, on examination I found a black queen which I think was in the hive with the Italian.

I think it is not safe to introduce a good queen, until the bees have commenced to build cells.

I have lost 2 queens this season by taking one queen out, and looking no further, and afterward finding that there was one left in. I have never found this trouble before this season.

JOS. HARRIS.

Moundsville, W. Va., Nov. 24, 1879.

The candy is sometimes a day or two in hardening, but the bees will take it much faster, if it is rather soft and moist when given them. You did not state how many colonies you have, friend H., so we cannot tell whether your having 4 colonies with two queens each is so very singular or not. If you have only 4 hives, it is a little remarkable; but, if you have 50, I should expect to find so many or more with two queens. Will the friends, in making reports, keep this point in view?

Find enclosed \$1.00. That GLEANINGS fellow told me, if I didn't hunt around in my old clothes and find him some stamps, he would forget me next month; and I guess he would, because he said he would. "Curious critter," isn't he? I never have seen him, but feel as though I were pretty well acquainted through reading his Home Papers. I am not a professor of religion, no; not—now do. I hold up both hands—not even a believer in the Divine Revelation; but I do love to read those Home Papers. Why? Because they are written, I believe, by an honest, sincere man, striving to lead a Christian life. They have done me good.

This has been a very poor season for surplus honey, in this locality. I have a neighbor who has 30 swarms in box hives, that did not get a pound of surplus. My 9 swarms that I had last winter came through all right until spring; they were in box hives when they commenced swarming out, and they dwindled so that I only saved 3 swarms, or rather handfuls, out of the lot; and I have divided them until now I have my old number, 9, in Simplicity hives, which, by the aid of the grape sugar candy I hope to bring through. The box of grape sugar that I am using is what is called confectioners sugar, and is very white, made by the Buffalo Grape Sugar Co. Is that the right kind?

W. P. HALL.

Pembroke, Genesee Co., N. Y., Nov. 24, 1879.

Thank you, friend H. If you will turn in and help try to lead a Christian life, I shall have no fears from your unbelief. God will take care of that.

I am very sorry you have done so poorly with your bees, and I fear you are trusting too much to grape sugar. The kind you mention is right for bees.

ANOTHER A B C SCHOLAR.

If you are ready to hear my lesson, I'll recite. I made a lot of L. hives last winter, and transferred my 8 box hive colonies, about the last of April. I succeeded, without the loss of a single queen. So far, I was all right; but the colonies were all very weak, not able to cover the brood during a very cold snap of weather that came soon after they were put in their new hives. Consequently, the brood chilled which gave them quite a set-back. I also had to feed them before the white clover came to their relief. So you may guess they have made poor headway. Bees are very little worked with, in this part of the country.

RED CLOVER HONEY.

Will Italian bees gather honey from red clover? If so, what quality of honey does it make?

L. F. MOORE.

Morris Church, Campbell Co., Va.

You have recited very well, friend C. Had your transferred colonies been closed up with division boards into a small space, I hardly think the brood would have chilled. Did you place the brood all of it close together, very nearly as it was in the old hives? Chaff hives, perhaps, are the surest remedy for such mishaps. Italians always work on red clover in June and July, with us, but they do not work on it during the fall months every season. The honey is very nearly like that from white clover. The flavor is perhaps a little more rank, and one who is nice in such matters would, perhaps, give the white clover honey a little preference. The white Dutch clover differs little, if any, from the common white clover, for honey.

A SMALL SWARM COMING OUT OF A HEAVY NEW SWARM.

Last fall, I introduced an Italian queen to a heavy swarm of black bees. They wintered finely, and the 19th of June, sent out a very large swarm, which I hived, and they went to work all right. On the 28th, a little over a week afterward, about 2 qts. of bees came out of that hive, and lit on a small bush. I shook them into a box, gave them a little smoke, and tried to find the queen, but failed.

I had another colony of Italians which was rather weak, and I put them all together, and have had no trouble with them since. What was the cause of their coming out? and was there any harm in putting them with the other swarm? H. E. SPENCER.

Center Village, N. Y., June 3, 1879.

It is a hard matter to account for the case you mention, friend S., without having an opportunity to examine the colony it came from. I have never known a body of bees to thus emigrate, unless they had a queen, or at least started with one. In lieu of a better explanation, I will suggest that they undertook to swarm, but the old queen failing to go with them, the greater part of the bees returned to the hive, and the two quarts you mention pushed on, and had not discovered they were queenless, when you found them. There was no harm in putting them with the other swarm if they were queenless, and you watched to see that they did not kill each other.

A GOOD REPORT FROM THE BLACKS.

A bee-keeper not more than a mile from here took 200 lb. of honey from a colony of black bees. Do you not think that is very good for the blacks? Just one question: Do you think it will pay, this fall, to give from \$5.00 to \$10.00 for black bees, well supplied for winter, packed in chaff, etc.?

EDWIN GRANGER.

Deer Park P. O., Ont., Can., Nov. 28, 1879.

If you can get, for \$10., the colony that gave the 200 lb., I think it would pay; but I would not give over \$5. for common bees ordinarily, and they should be in movable frame hives, at that price.

JUICE OF SUGAR-CANE FOR BEES.

Will the juice of the common sugar-cane injure bees? We have been making syrup for the last week, and the bees swarmed around the mill all the time. Let us know what you think about it, and then, next spring,—well, I'll tell what I think about it. We fed them syrup to keep them away from the mill, but it did not keep more than 1 half of them away.

D. S. BETHUNE.

Snyder, Ark., Nov. 14, 1879.

The juice will do them no harm (unless they get drowned in it), if the weather is so they can fly. For winter stores where the winters are so cold they cannot fly almost every day, it often produces dysentery.

Notes and Queries.

THE CHAFF HIVES AHEAD AGAIN, FOR COMB HONEY.

I HAVE 64 colonies, one only being in a chaff hive. It has been a very poor honey year with me. I've taken only 600 lb. of comb honey, and 72 lb. of it came from the chaff hive. I use the one pound sections and the flat bottomed fdn. I let my bees swarm the natural way, and did not lose a swarm, but my father lost one.

CHOOSING A LOCATION BEFORE SWARMING.

It first lit about 6 rods south of the old swarm. He hived it, and let it remain under the tree in the shade. In about 4 hours, it went north until it got in range of the old swarm, then it started west for the woods, which shows that they select their place before swarming, as they took a bee-line from the old swarm. A. M. SAWDEY.

Poolville, Madison Co., N. Y., Dec. 9, 1879.

[It seems from this, and a great many other facts, that they do, at least very often, choose their tree before swarming.]

FOUNDATION FOR COMB HONEY.

What kind of fdn. would you prefer for boxes, for surplus comb honey only? and how large pieces could be used with safety and not injure the side of the honey? D. W. FLETCHER.

Lansingville, N. Y., Dec. 17, 1879.

[If I could have very thin fdn. that would not leave any piece of hard wax in the honey, under any circumstances, such as Mr. Washburn is now at work at, I would have the starters nearly or quite fill the section, because I am sure the bees would make more rapid progress, by so doing. The starters in the sections we ship are only about one inch deep, because they would be broken out in transit, if larger.]

DARK HONEY AND OLD BEES.

I told you, March 10th, 1879, I thought I would have about 25 swarms left out of 70. I had only 3 left. There was not much candied honey in last year's combs, but a good deal of dark, muddy colored honey. I have 20 set of combs of that honey yet, left from last year. I examined my bees, Sept. 1st, and found the combs all full of honey and pollen, all capped over; so you see they are all old bees, which have gone into winter quarters. I had no empty combs to give them. STEPHEN HILL.

Port Huron, St. Clair Co., Mich., Dec. 13, 1879.

[Your dark honey, I would prefer feeding to the bees when they can fly out; but perhaps it will do them no harm. If they are in chaff packed hives. If you had a good yield of honey in the fall, I can hardly understand how the bees can be all old. Even if the honey did come, so as to fill all the combs, I think enough brood would have been started to make them safe to winter. In my experience, I have always found that a beautiful flow in the fall, whether from natural sources, or not, is just what is wanted.]

HOW NEAR TO EACH OTHER HIVES MAY BE PLACED.

Please state in GLEANINGS whether or not the bees ever get into the wrong hives, in such numbers as to cause serious loss of both the bees and queens, when they are set 8 ft. by 8 ft. apart, the hives being all alike, and facing to the east with trellises on south side of each, as you have them in the hexagonal apiary. Many of my hives are sadly depopulated, and I judge it is from this very cause. What say you? The honey season has been the worst I ever knew, and in consequence, I had to feed 200 lb. of sugar to winter 38 hives; but I think I have been well paid, as I have sold about 500 lb. of honey in sections, besides having on hand about 300 lb. of honey, extracted and in brood frames.

Chadd's Ford, Pa., Dec. 18, '79. WM. T. SEAL.

[If hives are exactly alike, and facing the same way, there will probably be some trouble, unless there are trees, buildings, or some other objects for land-marks. In our old apiary, we had no trouble at 6 feet, but we have had some in our new, with 7 feet. By making the entrances point in different directions, as explained in the A B C, you will have little or no trouble, even if the hives are exactly alike.]

CAN HIVES BE TOO WARM? AND BROWN SUGAR FOR WINTER FOOD.

I have 2 swarms of Italian bees. This is my first experience in bee-keeping. I have put them up in chaff hives, and do not know but I have got them too warm. One of my colonies is not so strong as the other, and I fed them some in the fall, on sugar syrup, some of which was made of brown and some of white sugar. My chaff hives are made of inch boards, and then shingled. There are 4 inches of chaff on all sides, and about 8 inches on top and 3 inches at the bottom. I made the entrance quite small so that as little cold as possible would get in there. Every warm day, all the bees come out and fly, and one day it was so cold that they could not fly, but many of them came out and froze before they could get back in again. Is the hive too warm for them, or was it some disease that drove them out in the cold? My 2 hives are just alike, but only a few bees come out of the strong colony, while many come out of the small one. If it is some disease, what can I do for them? or can nothing be done? If bees are close to the road, does the rumbling of wagons interfere with them, during the winter? How do bees act when they have the dysentery? F. W. WINTERS.

Onondaga, Ingham Co., Mich., Dec. 21, 1879.

[I do not know what the trouble is, friend W., unless the brown sugar you fed them has produced dysentery. It is hardly possible that the bees are too warm, unless the colonies are very strong indeed; and, in that case, the stronger one would be most affected. In dysentery, or dwindling, the bees often crawl out of the hive during cool weather; sometimes it is only the very old bees that do this, and soon ceases. We trust it may be so in your case. The teams passing along the road would not harm them, I think.]

SETTING BEES NEAR TO A MAIN ROAD.

Will I be likely to get into trouble by putting 30 stocks of Italians and 35 of hybrids, 6 to 8 rods from the road, where 150 teams pass daily, with nothing between bees and road. It is a good place to set bees.

[I think it will do no harm; certainly not, unless you are careless, and get them to robbing.]

GETTING BEES THAT ARE TO BE BRIMSTONED.

I went 9 miles, to a man who was going to sulphur some bees, and took them out in pails, brought them home, and put them on combs taken from other hives. They were blacks. Will this pay?

[I think it will pay excellently, so long as you have surplus combs to put the bees on. It will also pay to save combs of honey, especially for this purpose, so long as you can find bees that are to be taken up.]

INCREASING FROM 2 TO 25 IN ONE SEASON.

I winter in chaff hives. I started with 2 hives and increased to 25 the first year, how is that for a novice? I—I bought 18.

[I—I—rather think, friend H., I would advise a novice to increase from 2 to 7, without buying 18. However, all is well that ends well.]

HOW TO CONTRACT THE ENTRANCE TO CHAFF HIVES FOR WINTER.

How long should winter entrances be?

[With a strong colony, we leave the chaff hive entrances open the whole 3 inches; but, this winter, as so many of ours are weak, we have contracted the entrances to about 2 inches. We do this with the following arrangement: Take 2 little boards, 4x6, and $\frac{1}{2}$ thick; slip these into a little bag of burlap, and fill between the boards with chaff, until the little cushion will just press nicely into the entrance. If dead bees fill the passage, pull out the cushion, get them out with a stick, and then replace the cushion.]

Jackson, Mich., Dec. 15, '79.

W. D. HIGDON.

EXTRACTING ALL UNSEALED HONEY FOR WINTER.

Extracting from the brood nest, all the honey that is not sealed, I think, is nonsense. Did you or any one else ever open a swarm of bees, and find the honey all sealed up? If you have, you have found something I have not; they always have some open for their own use. I have put 150 swarms in a small cellar, without taking any honey from the brood department, and all wintered well. My bees have done well this season, giving me nearly 3 tons of box honey. ALBERT POTTER.

Eureka, Wis., Dec. 9, 1879.

LETTING BEES STARVE.

The grape sugar has come at last, in good condition, but was weeks on the road, and, by its delay, I lost 4 stands of bees. I think full 4-5 of the bees in this country will die before spring. One of my neighbors had lost 40 stands, some weeks ago, and doubtless many more by this time.

Slater, Mo., Dec. 5, 1879.

GEO. W. BAKER.

THE BETTER WAY.

Friend Root:—After you so kindly offered to take my imported queen back, and send me another, it made me feel ashamed of myself, and I thought that I was probably mistaken after all, and I would keep her, black or yellow.

P. B. SROUT.

Paola, Miami Co., Kas., Nov. 21, 1879.

[Many thanks for your kindness, friend S. I fear you do me more than justice; the above illustrates how easily most business transactions may be got along with, where a Christian spirit is shown on one or both sides. If the queen does not prove what you have a right to expect for the money you paid, I will take her back, or make the price as it should be.]

WILL THE LOSS OF THE STING KILL A BEE?

What bee-keeper has not been asked this question? and how many can answer it? When a bee stings, it dies, don't it? A few years ago, I shut a bee which had stung me, under a tumbler, and kept it 24 hours; then I let it go. The present year, in June, I shut up two that had stung me. One that was badly mutilated lived over 50 hours; the other, over 70 hours. In August, one morning, I shut up two that had not lost their stings. At night, they were both dead. They were all fed.

B. FINCH.

Gallupville, Schoharie Co., N. Y., Nov. 24, 1879.

ONE GOOD REPORT FOR 1879, ANY WAY.

My bees are doing better than for years. I have 4 colonies, from which I have taken 296 one-p and boxes (black bees at that), and will get enough to make the even 400, if I can get my sections in time.

Republic, O., July 8, 1879.

E. F. BEARD.

HOW TO PREVENT PROPOLIS STICKING TO THE FINGERS.

Hard soap rubbed on the hands while handling sticky frames prevents propolis from sticking, and is much cleaner than grease. I keep a piece handy while at work, and it saves much vexation. This is the poorest honey season I ever knew. I do not think over half the bees in the country have honey enough to winter on.

STEPHEN W. HALL.

Lamoille, Marshall Co., Ia., Dec. 8, 1879.

[Many thanks, friend H., for your novel idea. It is said prevention is better than cure, and I have no doubt but that it will prove so in this case.]

PUTTING GUMMED HONEY LABELS ON TIN.

I ordered some of your gummed labels, received them in due time, and was very much pleased with them; but when I came to put them on tin pails, they would come off as soon as dry. I soon discovered a remedy, however, that prevents all such difficulty, and they now work splendidly.

Winoski, Wis., Dec. 1, 1879.

G. H. PEIRCE.

[Labels are generally made so as to go clear around the tin can or pail, and then there is no such thing as coming off. Another way is, to make the tin rough with sand paper; but this is too much work where there are many. Have you any better plan, friend P.?

Our bees have done so much better on your improved plan of handling them, that my friends are astonished. I am making the chaff hive, and have quite a number of stocks in them.

E. L. STOVE.

Beardstown, Wood Co., O., Nov. 21, 1879.

UNITED STOCKS QUARRELING.

I had a small colony of blacks, and thought I would destroy their queen, and put them in with a small colony of Italians. Next morning, every black was killed. What do you think was the cause?

Ft. Smith, Ark., Nov. 18, '79.

STACY PETTIT.

[Such will frequently be the case, unless the colony to be united with another has been some time queenless. As I understand it, you killed their queen and united them right away, did you not, friend P.? Had you kept watch of them, and smok-

ed them thoroughly as soon as they commenced hostilities, you could have saved them.]

Hurrah for GLEANINGS! What a glorious thing it was they did not take you to the asylum when you first went crazy!

A. N. DUFF.

Flat Ridge, O., Dec. 12, 1879.

FEEDING SUGAR TO MAKE HONEY.

[One of our subscribers sends us the following, which I fear will have to go the rounds of the newspapers, simply because it is such an abominable string of falsehoods from beginning to end; the worst art of it is, that every paper that quotes is almost sure to give it as a *sober fact*.]

FEEDING HONEY BEES. — Without speaking of the numberless attempts to feed bees upon cheap food which were all failures, we give the following as the result of our experiments: That if bees be fed upon good, pure loaf-sugar dissolved in only water enough to render it liquid, so that they can eat it, or suck it up, that an ordinary hive will consume from one to two pounds of such mixture every day; but that the actual gain in weight is only what the sugar weighs without the water; the latter being only a solvent, and not convertible into honey. That the sugar is at once converted into the most pure and delicate honey possible for the bees to make, with all the delicious flavor pertaining to the best honey; while for whiteness both of honey and comb, it far excels any made from the sweets of flowers. It becomes then simply a matter of cost and profit. Sugar by the ton, in a large apirry, can be converted into honey worth from seventy-five cents to one dollar a pound, while present prices continue. That by this process bees can be kept at work to profit at all seasons of the year, where the climate is not too cold for them to manufacture the comb, to hold the honey. — *California Cultivist*.

I began last spring with two box hives. One of the swarms I found July 8th., 1878, hanging on a small tree. Being a small swarm, I put them in a small box, and fed them 50lb. of coffee sugar. I put them up stairs in a dark closet. They came out all right in spring. I bought another box hive in the spring, and not knowing any thing about bees, I got no surplus honey, but I have plenty of bees. I have 6 colonies in movable comb hives, and one swarm I lost; it went off and never bade me goodbye.

WM. COLEMAN.

Devizes, Ont., Ca., Dec. 15, 1879.

[You did well, friend C., especially as you are about the first person I ever knew to succeed, who put bees up stairs for winter. Your keeping the room perfectly dark was probably why it did not harm them.]

TROUBLES.

Some of my neighbors think that I ought to go into Blasted Hopes, as I went to so much expense and trouble this last season, and got no honey to pay me. My transferred stocks all built themselves up nicely, except the very late ones, and they would also have done so, had I helped them.

TROUBLES IN FALL FEEDING OUT-DOORS.

My fall feeding came near proving a failure. I first tried out-door feeding with glass fruit-jars. It started robbing. My only Italian stock got to killing one another. I would not have believed it, but there are no Italians within 4 miles of me except my one stock.

TROUBLES IN FEEDING AT THE ENTRANCE.

I then sent to you for a dozen Simplicity feeders, and tried the night-feeding with them, and they were taken possession of by the little red ants by the thousands. In the morning the feeders would be red with them.

TROUBLES IN FEEDING IN THE UPPER STORY.

I then used, on my weakest colonies, a second story, and in it I placed an inverted fruit-jar fill d with syrup. That did first rate, except with a couple of colonies, which I had to close up to keep robbers away.

TROUBLES IN UNITING.

I tried doubling one colony with another, and the one that I put in was all killed.

ALL IS WELL, IF IT ENDS WELL.

I have chaff cushioned all of my transferred stocks, both sides and tops, and of those not transferred, I

opened the tops and put cushions on them. Not one of the latter show the honey they did last March. In this section, bees went into winter quarters with slim supplies.

L. B. WOLF.

Evansburg, Coshocton Co., O., Dec. 13, 1879.

Last winter, I lost 8 hives out of 50, leaving 42, and got 1,800 lb. of honey,—about 400 lb. box, the rest extracted. I have now 51 hives.

WILL HONEY FREEZE

Hard enough to break glass cans or stone crocks?

[I did not know, friend U., that honey would freeze at all; but I do know that, in candying, it will often push the corks out, and even burst tin cans in which it is soldered up, if the cans are entirely full, unless they are sealed up hot like fruit, in which case there is no candying at all.]

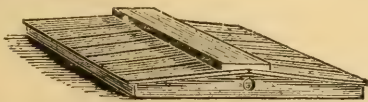
HOW TO PUT THE TIN ROOF ON A CHAFF HIVE.

How do you make the tin covers for chaff hives?

Amity, N. Y., Dec. 10, 1879.

J. W. UTER.

[I will answer this by lifting out a portion of one the A B C pages.]



COVER TO CHAFF HIVE, READY FOR THE TIN SHEETS.

To make these cheap roof-boards water proof, we will cover them with tin. Get 12 x 24 roofing tin, which will cost, at present prices, about \$8.50 per box. Two sheets are required for a cover. Notch out two of the corners to each sheet, $\frac{3}{8}$ x $\frac{3}{8}$; fold three sides of the sheet at right angles, $\frac{3}{8}$ of an inch, and it is then just right to put on the covers, if the covers are as they should be. The tin is nailed fast only in the edges of the eaves and along the gable ends, no nails being on the top side of the cover. In our picture of the cover, the ridge-board is represented in place, but it is not to be put on until after the sheets of tin. It is put on the last thing, and held by nails from the inside, none of them being allowed to come up through. This tin cover is to be painted like the rest of the hive, and, so long as it is kept painted, the tin will last unimpaired.

LOCALITIES FOR BEE KEEPERS IN MICHIGAN.

I would like to know the price of land in Central Michigan, and if there is government land there for sale; also if there is plenty of basswood in that vicinity, or any thing else to make a good apriary. If some reader of GLEANINGS will answer the question, they will greatly oblige an A B C scholar.

SAMUEL HEATH.

Mahoning, Armstrong Co., Penn., Dec. 15, 1879.

A GREAT CROP OF HONEY IN ONTARIO, CANADA.

This year's honey crop, in Ontario, has vastly exceeded any thing in the same line for years. A few years ago, "bee-ing" was almost extinct; but now, prices have been so reduced that the profits are small, except to very extensive apiaries, of which there are not many in the province. I have been digging honey out of barrels for some days, and while raising the rich and luscious stores, I have been impressed with the idea of waste, all over the country, of thousands of tons of sweets ungathered.

JOHN FOTHERINGHAM.

St. Mary's, Ont., Canada, Dec. 13, 1879.

[Don't you hope it will be our turn next year, boys? Friend F., we would very much like a "scoop" out of one of those barrels. Those new tin plates that don't cost quite a cent apiece would hold a nice

quantity for supper, and I suppose you have enough to almost give all the readers of GLEANINGS a taste. Then you see we could give you some, when we have a big lot and you don't have any.]

PICTURE OF THE APIARY, AND THE CARTOON.

Thanks for the beautiful picture of your apiary, given us in the Nov. No. of GLEANINGS. All who see it call it "just splendid."

I see, by the cartoon in the same No., that you have at last succeeded in getting an excellent "photo." I think I should have known that anywhere, I tell "my folks," if a visitor comes here when I am away, looking just like the man in the picture, they can call him Mr. Root, with a certainty of being correct, and give him a cordial reception.

J. H. TOMSLEY.

Tompkins, Jackson Co., Mich., Dec. 16, 1879.

Bees in this section did not gather more than about $\frac{1}{2}$ as much surplus as in the year 1878, and, as a general thing, have gone into winter quarters with a large portion of their honey unsealed; but I hope the winter will be more mild than last, so that bees may have more chances to fly.

FLAT-BOTTOMED FDN. NOT A SUCCESS.

I have used considerable flat bottomed fdn. in surplus this season, but do not consider it a success, as the bees bite the base of the cells through in their efforts to make the bottom like natural comb. They do not leave the bottom of the cells flat.

Comb honey brings 20c.; extracted, 15c.

[I believe the only merit ever claimed for flat bottomed fdn. is its being thinner than the other could well be made. Mr. Washburn is now at work on a \$15.00 machine, expressly for starters, which, we expect, will make fdn. so thin—so thin—we'll, so thin that it will take several sheets to make a decent shadow; and you know, when Mr. W. starts out, he never fails; at least, he never has yet, on any machine I ever knew him to undertake.]

WORKER BROOD FROM A QUEEN THAT WAS HATCHED WITHOUT WINGS.

The past season, in one of my nuclei, I found a queen just as she was emerging from her cell, without wings; and, on the 12th day after hatching, I found she was laying. As the eggs were laid so very regular, I left her in, and in 21 days found as pretty yellow workers as you can find. I then introduced her to a full colony, and her progeny prove to be among the best workers I have in my yard.

Query:—How did she get mated, if they must fly to mate?

H. H. BROWN.

Light Street, Col. Co., Pa., Dec. 5, 1879.

[Do you know, friend B., that I shall be reckless enough to say I do not believe that queen ever was fertilized? See in A B C, the concluding remark in regard to drones.]

I went into winter with 26 hives last year, with quilt on, and cotton waste in upper story. They came through winter all right. I doubted the weakest to 23, for poplar honey, which is our first surplus, and usually very prolific. I extracted 300 lb., after which the supply strangely stopped. Lynn, of which we have an abundance, only yielded enough to keep them rearing brood. We got no increase this year, not so much as one swarm. Bees suffered badly last winter, where they were not protected. Bee-keeping received a great stimulus 8 years ago, and the market was overstocked with honey and bees, hence both went down. It now has somewhat rallied; extracted honey is worth 10 to 12½ c., and has ready sale. Nothing can exceed poplar as a honey producer. In a good year, for 6 weeks, we extract every week or oftener. Lynn never fails, but yields largely only once in 4 or 5 years.

WHITE CLOVER THAT DON'T YIELD HONEY.

White clover is abundant, but we never get any surplus from it.

GREAT YIELD FROM THE ASTERS.

But when asters came, in Sept., they went to the honey, and hives were filled full. Asters were unknown here 10 years ago; now, they are everywhere, and never fail to yield honey from 6 to 10 weeks. We are in line fix for winter. I extracted all but enough to fill the lower story, in which we have the bees packed with cotton waste.

J. H. BARKOW.

Lynnville, Giles Co., Tenn., Dec. 10, 1879.

POISONING BEES WITH YEAST.

Two men threaten to poison my bees,—one of them because my Italians robbed his blacks; the other, because the bees spoiled his Delaware grapes. The way they are going to poison them is to mix brewer's yeast with honey, and set it out for the bees. They say it will make the honey all run out of the hives. Let me know whether this is a fact, and if there is any remedy for this yeast business.

W. W. WILSON.

Hartland, Waukesha Co., Wis., Dec. 12, 1879.

[I have heard, years ago, about poisoning bees by feeding them honey containing yeast; but, although I have never tried the experiment, I believe, from what I know of their habits, the bees are equal to the task of taking care of yeast even, if they are strong and in good health. Notwithstanding, I would try to make friends with those neighbors, if it is a possible thing. Talk the matter over in a pleasant way; show them the articles we have recently published on the subject; then agree upon damages, and pay it, if they are not too unreasonable. If you can not stand it, get a new location for your bees; but don't quarrel with your neighbors, if you have to give up bee-culture and stop taking GLEANINGS.]

HONEY DEW FROM THE BEECH, ETC.

We have 125 colonies all packed in chaff hives, on their summer stands, all in good order, except that they adhered a lot of honey dew from the beech leaves. This fall, some beech trees had the limbs covered with white insects about a quarter of an inch long, and those were the trees that the bees worked on most. The Italians seem to work on it more than the blacks. Buckwheat was a failure here this year.

We commenced the season with 45 colonies, and made 2,000 lb. of comb honey in one and two pound sections. This was a good season for honey up to the end of basswood, but the fall was very dry.

Lifford, Ont., Can., Dec. 8, 1879. J. RUSSELL.

REPORT FROM IOWA.

I started with 150 stocks in the spring, extracted 1,800 lb., and took 2,400 lb. of section honey, and increased to 193. I have sold somewhat over 4,100 lb. of honey, about 1,700 of which was extracted honey. It averaged, both comb and extracted, 10c. per lb.

My bees are mostly black. I have some hybrids, which are as saucy as yellow jackets. Bees have not done very well among the former bee-keepers of this county. There was scarcely any honey raised; the season was too dry; from July till the frost came, there was not much more honey gathered than the bees used to live on.

CELLAR WINTERING IN IOWA.

My bees are all housed in out-door caves or cellars, with the caps filled with dry straw. It took one man one day to carry them in, and cost me \$1.00, which I think is cheaper than to fuss with chaff. I have lost only 5 stands wintering for 3 years.

[But the chaff packing is an excellent thing when the bees are not in-doors, friend Q.]

ADVERTISING BEES DON'T PAY THIS YEAR.

My advertisement of bees, in GLEANINGS, did not pay, as I have not sold any yet. The mistake you made in September advertisement brought me about 100 postal, but when I wrote them it was a mistake, none seemed to want to buy.

ADVERTISING HONEY DOES PAY THIS YEAR.

But the honey advertisement made it all up, as I soon sold all my extracted honey. The comb honey I sold near home.

ROBT. QUINN.
Shellsburg, Benton Co., Iowa, Dec. 12, 1879.

AGE OF DRONES.

I see, on p. 481, in December GLEANINGS, 1879, that brother Demaree advances a new theory in regard to the length of the life of drones. I do not think his theory a true one, for I have a colony of bees that has kept drones for the past 2 winters. I am certain that none of them were reared later than the 20th of October. On Tuesday, the 16th of this month, my bees had a good fly, and in that one colony, I noticed quite a number of drones. The queen is a large black one, and is 3 years old. If those drones live through this winter, as they did last, I will report again. My bees are all nicely packed away and enjoying a good rest.

THOMAS BUTLER.

Bloomington, Ill., Dec. 23, 1879.

CALIFORNIA SAGE AS A HONEY PLANT.

A SUBSCRIBER sends me an article from which I clip the following:

When the plants are well established, which will be when they are two years old, they will yield rich returns, and the seed will scatter and take root on adjoining land. Year after year the plants will increase, more acres will bloom, and the hives will groan under the weight of honey that will in quality surpass that of Mt. Hymettus.

As the white, blue, and black sage do so well, are of easy culture, and yield large quantities and an excellent quality of honey, they should be distributed in all parts of the State where they will grow; and in a few years, where one pound is now gathered there will be ten pounds.

Do not wait for your neighbor to try it first, but obtain the seed now, and have plants to set out next spring. Propagate by cuttings as well as by seed, and thereby increase rapidly. Plant on the hillsides, on the banks of creeks, and by the roadside. Do this, and the honey-producing flora of your locality will be augmented; and perhaps in a shorter time than one thinks the bees will be collecting exclusively from sage blossoms, and the honey will be as clear and limpid as one could desire.—W. A. Pryal, in Pacific Rural Press.

Now if the friends in California are hard up, too, this year, as we are, why do they not send us some seed at something like a fair price? The only price I have seen quoted, was 5c. per packet, or \$2.50 per oz. Surely some one can gather seed at less than this? We want some of the three kinds mentioned, and we want to try it, even if it will not bear honey in our climate. Perhaps we can get friend Hasty to raise us some that will ripen in "90 days," like the new sugar cane. Will you can furnish the seeds? My opinion of the honey is, that there is nothing in the world equal to it. I hope soon to be enabled to mail samples of it for 10c.

THE SPIDER PLANT, AND SIMPSON HONEY PLANT.

ALL I KNOW ABOUT THEIR CULTIVATION.

HOW often will the same ground need to be reset with these plants? or how long will they last? Will they need cultivating after the first season? I do not find anything in GLEANINGS touching these points.

Can you furnish the plants for 2 or 3 acres, in the spring? and, if so, for how much per hundred? I want to get that many in the spring.

M. G. HAKES.

Tekonsha, Calhoun Co., Wis. Dec. 17, 1879.

The Simpson honey plant, if I am correct, will remain and blossom year after year indefinitely. On page 407, of GLEANINGS, 1879, a subscriber says he has one that has blossomed for 40 years. I would, by all means, keep the weeds out by cultivation. Plant the seeds in boxes of leaf mold from the woods, any month in the year. Keep them in a warm room, and they will come up as thickly and as easily as cabbage plants; but if you try them in hard, common soil, they will not grow at all. I presume February or March would be about the right time to start plants for next year. I have thought they might bloom more next season, if they were sown now, and, to try the experiment, we have a lot of them, already from 2 to 6 inches high, in boxes. You will have to try it and see; it costs but little for seed, or time either.

The spider plants are to be raised exactly in the same way, and transplanted after all danger of frost is past. As they die down at the approach of heavy frosts, they must be sown again every season. I would set both plants at about the same distance apart as you plant corn, and give them the same cultivation. It will take about 5,000 plants per acre. As you will see from my remarks on page 430 (1879), I am going to try to have these plants for sale in the spring, but as I have so much on my hands, it seems to me some of you might do it far cheaper. Where are our green house men? You that are wanting something to do might raise them in your own homes this winter. Fix up your boxes, and get your nice leaf mold from the woods, even if it is cold and stormy, and when you get a nice lot of plants ready to ship, send me a sample by mail, and tell me how low you can sell them by the hundred or thousand, and I will give you a notice free. Who will furnish the nicest plants, for the least money?

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.

MEDINA, JAN. 1, 1880.

Let not your heart be troubled, neither let it be afraid.—JOHN, xiv. 27.

DURING this month we will pay 22c. in cash, or 25c. in trade, for beeswax delivered at our depot.

PLEASE do not think unkindly of me, my friends, if you find I have omitted some of your communications. There are a great number of letters waiting, and they are good enough for a place too.

REDUCTION IN FREIGHTS ON BEE HIVES.

At length, the R. R. Cos. have decided to call bee-hives in the flat, or sawed lumber, as they term it, only 3d class freight, instead of first, as it has always been heretofore. As this will reduce the freight bills very materially, we have all great reason to be thankful.

SNOW OVER THE HIVES, AND ICE IN THE ENTRANCES.

If your hives are covered up with snow, all the better. Do not stamp the snow down, nor brush it away, for the chaff cushions will give them all the ventilation they need. So long as the weather is cold, the entrances are just as well frozen up with ice, as any way, but when a day comes warm enough for them to fly, see that they can get out if they want to.

A NEW BOOK ON TAXIDERMV.

FROM O. Judd & Co., we have a beautiful new book, entitled "Practical Taxidermy and Home Decoration." It is beautifully illustrated, on tinted p. per. and the quality of the engravings is such that it is a real pleasure to take a look through it. I know at least one boy who will be likely to go wild over it when he finds it Christmas morning. If our boys must have guns, let us help them to use them in the service of science, instead of wanton cruelty. \$1.50.

THAT RED CLOVER QUEEN.

THERE have been great numbers of applications for queens next season, from the one whose bees gathered such large amounts of honey from red clover. Should we winter the queen, and I know of no reason why we shall not, the price will be just the same as for queens from our imported stock. I am afraid some of you will complain, for the queen herself and her bees are rather dark, though the bees show plainly the three bands. We shall hardly be able to send out any before July.

HAVING THE CUSHIONS FIT CLOSELY IN THE UPPER STORY.

BEES are wintering beautifully, so far; but, as we have had no weather colder than 2° above zero, it is not yet time for trouble. After a pleasant day, it will be a good plan to look on top of the cushions, and see if there are no bees that have found their way above them. If your cushions are not put down bee-tight, the bees sometimes go up and try to get out at the wire-cloth-covered holes in the cap, and thus perish. Remember not a bee should ever get above the cushions. If you can't make your cushions fit bee-tight, pour in some loose chaff to fill up the corners.

In my report given last month, of hives, etc. sold, there were at least two errors in the figures. It should read like this:

Simplicity hives, 2,760; nucleus hives, 77; 1½ story hives, 863; wide frames to hold sections, 13,349; brood frames, 45,314; sections, 408,978; and 10,234 lb. of fdn.

During the season, we sold 1,705 queens. Of these, 144 were imported; 252 were tested; 1,197 were dollar; 21 were hybrids; 29 were blacks. We also sold 24 whole colonies, and 38 nuclei. I give the above, that you may see what is mostly in demand; for instance, there are a great many more Simplicity hives sold, than anything else; also nearly ¾ of all the queens wanted are dollar queens. As these have now been before the people several years, they probably know what kind is most profitable to order.

PRIZES AND PREMIUMS.

I HOPE the friends who think differently will excuse me for thinking it unwise to offer any thing in the shape of premiums and prizes, at fairs or conventions, that may excite a spirit of competition and rivalry, or any thing likely to result in dissatisfaction. I would reward every thing that is good, but I would not make any offer for the best. It may be urged, that no one ought to feel hard or complain, when he is not given the first prize, but, inasmuch as there is no way that I know of but to take humanity as it is, I feel strongly impressed, that we should beware of encouraging the love of this milder sort of gambling. Therefore, my friends, will you excuse me for saying I cannot publish any offers of prizes, for the largest number of subscribers, for the best show of honey, for the best essay, or any thing of the kind.

LUCERNE AND ALFALFA.

In reply to yours of Dec. 2d, we will say: All catalogues give prices on both separately, but, as they always come out of the same bag, the prices are always the same. Lucerne is the name this clover has been grown under, for at least one century. Some inventive genius in California has brought the same thing out under the name of Alfalfa, but, no matter; it is good fodder, and if it would stand our winters better, would be very profitable. A. C. KENDEL.
Cleveland, O., Dec. 3, 1879.

I thought when the two plants stood side by side in our garden they looked surprisingly alike, but as seedsmen advertised the two, I thought they must be different. I wonder if these same seedsmen are not just a little bit guilty of more of that same kind of work, especially in garden seeds; pease, lettuce, and the like, for instance.

DEPOSITORY OF *Blasted Hopes.*

Or Letters from Those Who Have Made
Bee Culture a Failure.

I MUST confess I am disappointed in bees. Whether or not my poor success is because I live in New England, where honey is not produced in very large quantities, I do not know.

IN THE SHADE OR IN THE SUN FOR WINTER?

In the first place, many bees were lost on the snow. When I bought them, I set the hives in a sunny place, and, on the first day that was a little warm, they flew out, staining the snow, and leaving their dead bodies in great numbers, while others, bought at the same place, which were in the shade, did not fly out at all.

"BLESSED BEES."

I read the reports in GLEANINGS, of the success of those who had frame hives, and was also rather "taken in" by that fascinating book, "The Blessed Bees." Now, do you think I did right in deciding to transfer my bees into a Langstroth hive? I did it in spite of the discouragements I received from others who said it was impossible. I placed one frame of boxes in the hive. The roadsides and fields began to be covered with white clover, and I thought they ought to make a nice little lot of honey, especially if they did not swarm; but they did not seem to do much in the boxes, and when I took them out after the buckwheat bloom, there was nothing in them at all, and the foundation-starters were somewhat eaten. Do you think this is because there is not enough pasturage, or because the colony is not strong enough? Basswood is almost unheard of here; so, would it not be well to sow some of the honey plants? or would it be a good plan to feed them up next spring with grape sugar? I have a Doollittle smoker, but can not make it work. I came near taking Mrs. Cotton's offer before I knew she was a fraud.

WM. L. HYDE.

Lyme, Ct., Nov. 24, 1879.

I am sorry to hear you are disappointed, my friend, but the best advice I can give is for you to go slowly, and demonstrate for yourself, with your one or two hives, what bees will do, before placing very much dependence upon what others may say. Not that others do not tell the truth, but that what succeeds with them may not succeed just the same with you. "Blessed Bees," I have no scruple in branding as a positive untruth, because almost everybody who reads it accepts it as truth and not fiction. I am quite sure the State of Connecticut will give as good results as the general run of other States, if you persevere and become a proficient. You, probably, like the rest of us, have had a poor season; but, had your colony been strong, I think an old hand would have got some surplus honey, at least. I would not, at present, place much dependence on raising honey plants. Take care of the honey that is yielded naturally, first, and leave it to older hands to experiment with artificial pasturage.

Box-Hive Department.

I HAVE nothing very big to tell about my bees, except that I lost 14 out of 22 last winter, and some that came through were not able to swarm this summer. I think the cause of loss was their being kept in a cellar that was too cool. This summer has been a very poor one in Delaware county for making honey, and stocks are now generally very light, both in bees and honey. I am a beginner

in the business, and thought I put my bees into winter quarters in fine condition last fall, but in the spring I made up my mind I did not know anything about bees. My courage revived a little, however, and I thought I would purchase a few to make up the break. So I started out to one of my neighbors, who kept about twenty hives. I asked him how his bees had wintered.

"First rate," said he.

I asked him if I could purchase a few colonies.

"Oh! yes," said he; "we have far too many."

"We will go down and look at them," said I.

"Oh!" was his reply, "I haven't time (he was working the team); just go down and pick out what you want, and when you come after them at night, we will arrange it."

I thought that would have been a good chance for an expert.

To my surprise, I found them all standing on their summer stands where they had been wintered. There was no wind-break of any description, and a good many of them were not even covered with a board, and some of the old hives were cracked on two and three sides, and the bees were working just splendidly. How is that for chaff packing? At night I loaded five hives into my wagon and paid him \$15.00, and we parted friends. I carried them home safe, and they have done well for this year. I would like to tell you how the robbers went for some of my half-dead hives, and how I succeeded in saving them; but you have such a big family to sympathize with, I will forbear. I bought a nice Italian queen of L. C. Root, in June, and was successful in introducing, and have raised some queens this summer. I now have 31 hives put away in the same cellar, only made a good deal warmer, with a cement floor in it; also the chambers of the hives are filled with fine hay. What the result may be remains to be seen. I would like to know if it is necessary to carry them out in winter, for a fly.

FRANCES GRAHAM.

Delhi, Del. Co., N. Y., Dec. 1, 1879.

Why do you persist in carrying them into the cellar, friend G., when your neighbor winters his so nicely out in the wind and weather? If you can keep your cellar from getting too warm, I do not think you will need to take them out for a fly, and I would not take them out so long as they are quiet and doing well. I know bees sometimes winter all right out-doors without protection, but there are so many other times when they don't, that I do not dare advise it.

OBITUARY.

Bro. Root:—While you, with many others, were enjoying Thanksgiving Day, we were sadly mourning the loss of our dear little pet (daughter) 5 years old. Her name was Valeria; and she always said she was "Pa bee boy," and often was with me among the bees. She sometimes called me, saying "The bees are swarming!"; but that sweet voice is gone. She was only sick 3 days. Why do such sad afflictions come when one is already trying to serve God? Is it to make us still more god-like? May God help us. Pray for us. Yours in hope,

Martinsville, Ill., Dec. 8, '79.

WM. ST. MARY.

May God indeed be with you and yours, friend S., in your affliction. I presume there are few of us who can not sympathize with you, and it will help us to be careful how we become unthankful and fretful, while these little ones are spared to lighten and gladden our homes. Even while I write, a little one of two is looking out of the window by my side, at the locomotive that brings our coal. I do not know why, friend S., God sees fit to afflict us so grievously, but I know it is easier, far easier, if we can say "Thy will be done," and rest on his promise of meeting them by and by, in a better and happier land. As we think of our own little ones, we all of us, I am sure, breathe a prayer for our bereaved friend, that God may help him to bear the trial submissively.

The contents of this leaf and the one following are not directly connected with the subject of bee-culture. On this account, I make no charge for them, and, if you choose, you can cut them out without reading.

Our Homes.

But seek ye first the kingdom of God, and his righteousness; and all these things shall be added unto you.—Matt. VI. 33.

AMONG my many friends scattered all over our land and other lands, whom I have known since these Home Papers have had life, there is one I would introduce to you to-day, by two little extracts from letters received from him.

The following was the concluding sentence of a letter written just after he had read Our Homes for last February:

Friend Root:—It looks so exceedingly selfish and bigoted for an editor to ventilate himself, while denying any right to reply, that I have concluded to ask it as a favor to send me no more numbers of GLEANINGS. Do as you please about retaining any of the money. Some one has said, "Any creed or opinion that shuns investigation openly manifests its own error," and it looks like an axiom. I wish you well, and I know that either here or "over there," you will see your error.

Memphis, Mo., Feb. 6, '79.

STEPHEN YOUNG.

I directed that his money should be promptly returned, but begged him to accept GLEANINGS as a present, for the remainder of the year. I often thought of this friend, and hoped he might sometime see things differently.

After the April No. was out, he wrote again; and although he did not agree with me in that either, I was rejoiced to see his letter close with these words:

My dear friend:—With all your idiosyncrasies, I love you still, and ask you to forgive me for ordering GLEANINGS stopped on account of "Our Homes." Speak on; I'll read all. I have re-sent the funds which you forgivingly returned. GLEANINGS will be more than ever welcome.

STEPHEN YOUNG.

April 16, 1879.

Most freely did I forgive him, and tried to tell him how keenly I often feel that I am not half worthy of so many kind and cheering words as I get continually, through almost every mail.

Well, this brother still insists that I do not give both sides a hearing, and begs me to publish the following:

Friend Root: I have read all your Home Papers, and in every case with the deepest regret, that one so honest and earnest should entertain such erroneous views of the Divine government. A great advance has been made in the last 30 or 40 years in regard to the ways of God to man, and I hope and believe that you will not take offense at the suggestion, that your present views may perhaps be but the awakening of the old dogmas impressed on your plastic mind at Sunday School, when a child.

The educated and logical youth of to-day will be slow to accept the doctrine of a personal God, personal Devil, and eternal punishment for the mass of mankind.

In your preface to A B C, I find this passage: "In God we trust." So long as we continue to trust in Him, and look to Him daily for help, the business will continue to prosper, and we shall be of use to ourselves and to all those about us; but just so soon as we cease to trust in Him, the business will go down; saloons will spring up about us; and ruin and devastation will be the end."

Now, is it possible that one evincing so much common-sense in bee-culture can entertain such views? Of course, by "trusting in God," you must mean practicing the two great commandments, loving

God with all your heart, and your neighbor as yourself; and that those who obey are certain to succeed in earthly business, while others are as certain to fail.

But I look at the matter in the opposite light. Think of the millionaires—the Rothschilds, Belmonts (Jews), Vanderbilts, Stewarts, and scores more with hearts of flint. How the elder Bennett prospered in publishing the "Satanic Press!" And now, Zach Chandler, who has been profane and a tippler all his life, has left nearly \$2,000,000 to an only child. Peter Cooper is an exception to the general rule; he uses his wealth to benefit mankind, but he is understood to be a Free-thinker. Gerritt Smith inherited his wealth but distributed it with a lavish hand to the needy, and he was a Spiritualist.

But, as you accept Jehovah of the Bible, as your God, I don't see how you can have confidence in him. According to the record, after creating heaven and earth and all therein, he pronounced all "very good," yet he was soon grieved at heart and repented of ever having made man, because he had become so corrupt. He then, by way of experiment, drowned the whole race with the exception of a few of the most promising specimens; but this venture turned out no better, as Noah got drunk as soon as he got ashore, and matters went on from bad to worse, until, as a *derrière* resort, he sent his only begotten son into the world to suffer in place of guilty man. But this also has turned out no more auspicious, according to orthodox theologians.

Now, my God is a very different being from that. He makes no mistakes, governing all things by exact and undeviating law, which insures the eternal progress and happiness of all his children.

Were you to take this view of things, you would be much more potent for good among your fellow men. Teach them that all physical and mental pain has for its object the education of the sufferer; that opposite causes must produce opposite effects; consequently, if doing good brings peace of mind, injuring any one must bring misery.

I perceive that you regard prayer as omnipotent. If so, please, through prayer, show how a being of infinite mercy can torment a single human being eternally.

S. YOUNG.

I entirely agree with your opening thought, friend Y., and I candidly believe I never quite got over the early Sabbath School teachings of my childhood, not even during all those years of my life, when I was a skeptic. I would urge this thought, too, for the encouragement of mothers and fathers bringing their children up in just that way.

Most certainly do I mean that one who loves God supremely, and his neighbor as himself, will succeed in business; but, my dear friend Y., I did not mean to convey the idea that getting rich was necessarily succeeding in business. You certainly did not understand that in our noon-day prayers I daily ask God to send me money that I may have a fine residence, and a gold watch and chain, and all these things, to the exclusion of the faithful boys and girls who meet with me and join in the hymns, and prayers too, as I hope and believe? or that God would bless our number, to the exclusion of the rest of the town, or world in general? Was the life of that man of whom you spoke a success, even with his two millions, while he was all the time a tippler? I have asked, and do ask, God for just so much money as I need to enable me to give employment to the greatest number of those who honestly merit and need it, and as will help me to help you and all my readers most. If the money came too fast or too easily, I should lose my incentive to, and my zeal in, prayer, and I verily believe too much money would tempt me away from God, sooner than any other one thing in this world. I thank my Heavenly Father just as much for withholding the money that would do me injury, as I do for

so kindly sending just at the time, when I need it most sorely. Is it not possible, my friends, that it is one of the greatest mercies, that we have been kept poor? I most earnestly pray, that we may all be kept poor, so long as riches have any power to do us harm, rather than good.

I do not know why God has seen fit to punish the wicked eternally. A boy once, in anger, threw the scissors at his sister, and one of her eyes was put out. For that little simple act, the boy was punished for life, and it may be eternally, but can you blame God for making eyes so that they can never be restored again?

I frankly admit, friend Y., that I cannot answer your principal argument. During the years that I was a skeptic, I frequently dwelt upon the absurdity as I then expressed it, of God's wasting his time in futile efforts to improve stubborn and unthankful mankind, and the thought would trouble me even now, if I should allow myself to think I was capable of comprehending and discussing such a matter. As I grow older, I begin to get a view in it, of man's natural depravity and of God's loving kindness, even to the unthankful.

Is it probable, friend Y., that we are entirely capable of understanding why God does all these things thus and so? Do you remember Job, xxxviii. 2?

Who is this that darkeneth counsel by words without knowledge?

And xxxviii. 33.—

Knowest thou the ordinances of Heaven? Canst thou set the dominion thereof in the earth?

I remember much such a letter as yours some little time ago, but the writer, after ridiculing the Bible and my faith in it, took me to task also, for saying in the A B C that the drone had a mother but no father. I answered him mildly, and quoted Langstroth, Quinby, and others. He replied, sweeping all these men away with a single wave of his hand, and called us a pack of fools for disseminating any thing so contrary to common sense, and all known laws of nature. I wrote him once more, and asked him to get some bees, and test the point himself. His reply to this was more abusive than any thing before, and in despair I gave the man up. What do you think of such a man, my friends? He was so sure of his ability to reason out these wonderful things in nature, he would not even take the trouble to follow the directions I gave him.

God, in his infinite wisdom has seen fit to give these humble Home Papers (the offspring of prayer) a power for saving immortal souls, and hundreds have felt their influence as well as you, friend Y. Shall we waste, in discussion, these precious moments that may just as well be spent in the service of the Master?

Whether it be in bees, or the Bible, among all that we do not understand, there is enough we do understand to enable us to go to work, and you know,

If any man will do his will, he shall know of the doctrine, whether it be of God, or whether I speak of myself.—JOHN, vii. 17.

Or, in other words, as in our opening text, But seek ye first the kingdom of God, and his

righteousness; and all these things shall be added unto you.

Now here is a brother that seems stumbling, discouraged, and disheartened, on the very words of that last text. Let us see if we cannot help him and others, who are in debt and in trouble.

Mr. A. I. Root:—O! how I wish I could see and talk with you one hour! I have read with great interest your Home Papers. After a religious life of fifty years, I am in the greatest darkness that has ever fallen to my lot. Something over a year ago, I did for a brother Christian, what I thought to be required of me as a Christian, and the result is that it has involved me in financial embarrassment, so that, by to-morrow, I must raise seven hundred dollars or have the mortgage foreclosed on my house and lot.

For weeks and months, I have resorted in secret to God, in earnest pleadings for a way of deliverance, pleading every Bible promise that I could think of, and yet, up to this moment, every thing is as dark as Egyptian night. I cannot think of any thing that I have not brought to the altar, so that I am like the Children of Israel at the Red Sea,—an impassable sea before me, mountains on the right and left, with the enemy pressing me forward. Sometimes, I think I am like Saul on Mount Gilboa, forsaken and left alone. My creditor, in Europe, is worth his hundreds of thousands, and I suppose never knew what it was to want for a dollar, and yet has a heart like the nether mill stone.

I think I do not dread so much the loss of my property as the loss of my life long trust in God, as hearing and answering prayer in temporal matters as well as spiritual. I have been a Sabbath School teacher or superintendent for forty years, and have taken so much pleasure in impressing my scholars with the impossibility that *any one*, under any *circumstances*, should trust God in vain, and yet I am to-day out on a stormy and tempestuous sea.

After my secret devotions this morning, I was impressed with the idea of writing to you, as my heart yearns for sympathy; I have nowhere to go for that but to God, and if all is swept away I will still look up.

Nov. 28, 1879.

In trouble, W. O.

Friend O., I thank you for your kind, frank letter, and for the confidence you have shown in me in coming to me in such a time of trouble. I pray God to direct the words I may say to you, and that it may not be in vain that you heeded the Spirit which prompted you to write as you have. I fear, my friend, that you are doubting. I know it is a trial to lose the property you speak of, but God knows best, and, if your heart is right before him, and the money will contribute to your best spiritual welfare, your prayers will certainly be answered. As you know, I have had some experience in asking God for the money I felt I needed, and I think I know something of the conditions he requires of us before he can consistently answer such prayers. Forgive me if I question closely, for I sincerely wish to guide you into a happier and more trustful frame of mind. The promises of his word are sure in giving us peace of mind, as well as the things of this earth, of which we stand in need.

Are you at peace with every one you know of on the face of the earth at this present moment? Can you put out your hand cordially and in unfeigned friendliness to every human being you know, even to the one who, you say, is rich and does not need the money? When you signed with the brother you speak of, or did some equivalent act, did you not do it with a fair and plain understanding that you were to pay it if he did not? If you did this when you knew you had not the means to spare, you did wrong, and God may

think it best to let you suffer somewhat, that you may receive a wholesome lesson, to enable you to be more careful in future. He knows best, and he is always right. Assume the debt, just as you would the most honest one you can think of, and try to feel that it is to God you are giving the money, and not to an unfeeling enemy. If God says it is right to pay it, do so cheerfully, even if it leave you houseless and penniless.

Who was it that said, —

"Ye are of more value than many sparrows" ?

and, —

"Even the very hairs of your head are numbered" ?

Are you sure you have never thought of putting your property out of your hands, or of concealing it, or of eluding the hand of the law in any way ? Are you sure you have ever been ready to hand over every copper of the little you have without thought or worrying about the consequences, if a fulfillment of the promise you gave this brother demanded it ? Have you been diligent and faithful, working early and late, ever since you found it was probable that you might have to pay this money ? Have you wasted no time in reading unprofitable books, or in listening to idle talk that did in no way further the work and claims of the Master ? Have you never lain in bed one half-hour when you might just as well, or better, have been up and doing ? Are you busy now every Sabbath-day in working for the Master, and in instilling that same kind of faith into the minds of the little ones that you just spoke about ? Did the darkness come while you were in the harness, engaged in this work, or has it come since you have left it off ? In asking these questions, I do not mean to say I am always perfect in these things. Only a very few minutes ago I felt that I had been writing all day, and was dreading this little task of writing to you, my brother ; but had I yielded to the disposition to look over the papers and a new catalogue, I should not have felt as happy as I do now. Temptations meet us all, I believe, at almost every turn, and, O my brother ! if we would evade these spells of darkness, we must watch and pray almost every minute of the day.

Last week I felt blue and dull one day ; my spirits seemed to oppress me, and I had no heart or energy for anything. I tried to think what it was, but could think of nothing that I had done that was wrong or in the least out of the way. I went off by myself and prayed, and asked God to tell me why it was that my usual happiness and joyousness were gone. As I prayed, I began looking back and scanning the events of the day. Pretty soon my mind caught on an incident, and something seemed to say that these dismal feelings had their source and origin somewhere about that spot. I thought back. Yes ; there it was. It must be because I had there been a little careless and regardless of telling the exact truth. Memory went back a little further, and I saw other places in which I had put a selfish construction on things I had said. Still more came to my mind ; in fact, I saw them all along. At one time I had been extravagant

in my speech ; at another time I had spoken hastily and carelessly ; again, I had made something a little funnier by telling it as it might have been instead of exactly as it was. As these things loomed up, it seemed to me as if I could hear the words, "Liar ! liar !" pronounced, and that they were not so *very* inappropriate, after all. In dismay, I turned to that only Friend — to that only Savior, and, as it were, fell on my knees before him. "Forgive me, O my Savior ! forgive me this once again," for it was a prayer I had uttered many times before, "and I will try hard, so *very* hard, to do better in this one respect. I will think every morning, every noon, and every night, and I will make it my especial business, all the day long, to be careful before I speak." As I prayed I laid my plans for a more vigorous fight than any I had ever made before, against this besetting sin. All at once I bethought me that I was happy again. Yes, a whole flood of quiet joy had come, and I could feel, if not hear, —

"This is all I want, my child ; the past is forgiven, freely forgiven. Go thy way, and sin no more."

This is the way in which I escape darkness, my friend, for God always shows me where I have done wrong, and always forgives me when I get into that attitude. If I have wasted my time, or made a foolish use of my money, I often feel that he wishes me to bear the consequences, that I may remember better in the future, as a kind father would school and train a beloved child ; but he never turns away from me when I am in real distress. I have hard, unpleasant duties to take up ; but when I can feel they are for the Master's sake, and that it is his will I should, bear this little burden, it soon becomes a joyous one. When I have been patient long, and have taken up some task that my selfish nature is strongly inclined to slip out of, how beautifully the following lines sometimes burst forth :

"Come unto me, all ye that labor and are heavy laden, and I will give you rest. Take my yoke upon you, and learn of me ; for I am meek and lowly in heart : and ye shall find rest unto your souls. For my yoke is easy, and my burden is light." — MATT. xi. 28-30.

If it is all in his hands, my friend, and we are doing just the very best we can, why need we be gloomy, or worry ?

If there is no prospect ahead of your being able to earn or to raise this money, let the homestead go, and trust and expect God to take care of you. Come out of that darkness any way, friend O. In the name of our Savior, Jesus Christ, who died for us both, I bid you come out. If there is a prospect of your being able to earn the money in a few years, tell your creditor so, and pay him just a little, if you can. Go and see whoever has charge of the matter, and have a friendly talk about it. After it is arranged to let you have another trial of it, as I know it will be, ask God to help you to work it out, and then go to work. As you value your peace of mind, — nay, as you value the salvation of your soul, — work, work, and doubt no more. Be up and doing, at five o'clock in the morning. Work until you go to sleep at night, and, as you deal the vigorous strokes, say, "Get thee behind me, Satan," with an ener-

gy and faith that will, with God's help, carry you to the gates of the golden city.

My friend, I have spoken thus to an utter stranger; I know nothing of your faults and failings, but I trust God has directed these words, and that they may do good. If I never meet you here on earth, I hope to meet you in the world beyond; and I confidently expect to hear, ere long, that you are out of trouble. May God bless and guide you!

And now, a few words to others of my friends who are in debt, and who, like our friend above, may be getting discouraged and disheartened: Please do not mistake me, my friends, when I say the first and most important thing to be done, is to go down on your knees, and ask your Heavenly Father to help you. A few days ago, in talking with a young man who was going to start a saloon, that he might get the wherewith to pay his debts, he came out with the question,

"Mr. Root, what shall I do, to support my wife and children?"

Of course, I gave him the advice I have given above. He laughed ironically, and told of an old fellow he knew that prayed the Lord to take care of his sheep, and they starved to death, the whole of them. Are there any of my readers who can so far mistake me as to think I mean that God will pay their debts while they sit by the stove? You have no business asking God to help you, unless you are doing all you can, and instead of doing less, after so praying, I should certainly expect you to continue doing all you can, and more as the Lord gives you opportunity. In the first place, you want your creditor or creditors to be patient, and give you a little time. Ask God to bless your words or letters to them, and then state the case fairly and honestly. Do not, by any means, allow yourself to cherish any hard feelings toward them, even should they be importunate, and speak or write harshly; those you owe, in all probability, have befriended you, or you would not be owing them. If you get a dunning letter, reply to it at once. Any reply, no matter how brief, is better than silence. I know it is often said promises are cheap, but I believe the world thinks far better of a man who keeps promising, than one who makes no reply at all. If, along with your promises, you can pay just a little, on what you owe, it will go a great way in restoring confidence. God seems to honor even little evidences of good intentions, and the man who keeps paying a little, month after month, or year after year, will in the end triumph. Do not, I implore you, my friends, ever give up, and make up your minds you will have to go down to your last sleep with the consciousness of having used some other brother or sister's hard earnings, for which you have never rendered them any equivalent. I know a hard working farmer's boy, who got a few hives of bees. He chopped wood to pay for his bees and hives, getting up and working early in the morning, and late at night. With the sweat of his face, did he earn his little possessions. Hard and rough were his hands, and bent was his form with toil, yet he loved

work, and loved his bees. To get his crop of honey secured in good shape, he got in debt some for boxes and an extractor. He raised a fine crop of honey, and took it to a city to sell. At one of the groceries, he was offered a better price, but the proprietor said he could not pay him for it that day. He trusted him, and a few months after learned that the man was irresponsible. He never got a cent for his honey, and the blow seemed to crush him entirely. How could that man, how could any body, be content, to take a boy's hard earnings, like that? My friend, are you sure that the money that you or I may be owing somebody, and which should have been paid long ago, is not indirectly robbing some poor soul in just that way? Do you know that professing Christians sometimes sit down idly, with folded hands, by the fire, when they have appropriated, perhaps eaten up, just such hard earnings of others? Does some one say, "But what else *can* I do?" I will try to tell you presently. I wish first to follow the fortunes of this boy. He seemed to lose heart in his work, and his bees were neglected. I soon saw him with a cigar in his mouth, idling away his time. Do you not see why, boys, I almost shudder at such a sight? He has not paid me for the supplies he bought last, but I do not care for that; I would rather lose it a thousand times, than to feel that my young friend is in danger of being lost. Do you ask how praying could have saved this boy from making bad bargains? That is exactly what I expect praying to do, or rather praying and working.

If any of you lack wisdom, let him ask of God, that giveth to all men liberally, and upbraideth not; and it shall be given him.—JAS. 1. 5.

Do you not realize that wisdom is far ahead of physical strength? The weakest and most obscure one among us, had he wisdom, even in business matters, would far outstrip the mighty. Ask God to save you from making bad debts, and ask him to bless you in making business ventures, but by all means push ahead, and show him by your actions, that you mean what you say.

What shall I do? I am asking God now, to guide me and give me wisdom, while I attempt to answer this question. To those who have wages or salaries, I would say stick to your places, and do your work faithfully and cheerfully and well, in the sight of God, and it will soon be well in the sight of man. If your time is *all* occupied, the greatest task you may have is to learn to save. A little scrap of paper sent me by one of you seems to hit the point.

A wife, writing to a friend, said:

"We have a cosy house; it is thrice dear to us because it is our own."

We have bought it with the savings of our earnings. Many were the soda fountains, the confectionary saloons, and the necessities of the market we had to pass; many a time my noble husband denied himself the comforts of tobacco, the refreshing draught of beer, wore his old clothes, and even patched up boots; and I, O me! made my old bonnet do, wore the plainest clothes, did the plainest cooking.

Saving was the order of the house, and to have a home of our own had been our united aim. Now we have. There is no landlord troubling us with raising the rent, and exacting this or that. There is no fear harbored in our bosom that in sickness or in old age we will be thrown out of house and home, and

the money which otherwise would have gone to pay the rent is sufficient to keep us comfortable in the winter days of life.

This is the point exactly: and when one once gets right down to it, it is astonishing how little will give us all the comforts of life, and I have many times been surprised to learn of the new and unexpected happiness which comes to one who sets seriously at work to "go without things," when it is done for Christ's sake; and if paying our just debts is not Christ's work, then I do not know what is.

Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me.—
MATT. XXV. 40

In the first of the Home Papers, I gave you experiments to show how cheaply one can provide himself with plenty of food, and improve his health and spirits at the same time. Some years have passed since then, but I have no reason to change the views then expressed. While I think of it, I am glad to say there is a prospect, that the Home Papers will soon be published in book form, with such changes as may be deemed best.

You are busy all day. Very well; but what do you do with your long evenings? A great many will say they are tired, and need rest. How do you take your rest? If you are near a town, perhaps you go down to the stores and groceries. Stores and groceries are good things,—in fact, they are very good things, but I cannot think they are good places to "rest" in. Too many of the people whom I find resting there are smoking the same cigars I was speaking of a little back. Others who do not smoke tell stories that are idle, if they are not positively bad. I cannot help fearing for the boy who spends his evenings in stores and groceries. Some of you stay at home and read. Very well, but I do not believe it is best to read a great deal at one time; no not even though you are reading the Bible. When I read the Bible a whole hour, it does not do me half the good which it does to catch a glimpse of some text when I am so hurried I cannot take time to read more than one verse. What *shall* you do? If you cannot do something to lay up treasures here on earth (it is right to lay up enough to pay your debts), lay them up in Heaven. Help somebody. That is a glorious way of resting. If no one else is near, help your wife. I believe wives are always busy, and they are almost always busy in something that is useful. It may be a good thing to sit down and talk occasionally; but if you are asking God to help you every morning and night, I do not believe it is best to sit and talk very long. When I write on the Home Papers until I am ready to go home and go to bed, I feel the approving voice of conscience much more strongly than when I read all the evening, or talk with somebody, lazily or idly. A young friend told me last evening, that he had all his married life stayed at home with his wife evenings, but he began to think it was not best for him to continue to do so. During the long winter evenings, he and his wife would get to arguing, and finally disagree to such an extent, that it was unpleasant to both of them. After he mentioned it, it occurred to me that I knew of another husband

and wife that came very near arguing "once upon a time." They came so near it that they neither of them felt "really happy," at the time, at any rate. What was the trouble? I think the trouble was, that at least one of them had nothing to do for a little while. "Satan always finds"—etc.

What *shall* we do? WORK! rest yourself by working. Why, bless your heart, my friend, the happiest life that is in store for a mortal is one where you are always busy. What at? Why, there are a thousand things. I will tell you a few of them. Get a pen, and improve your hand-writing. Right under my hand, are hundreds of letters from you, my friends, and—will it pay for you to improve your hand-writing? Whew! the real good, plain writers are so scarce that, when I find one, I can hardly help saying, "I wonder if I could hire that fellow," although I have hundreds of applications all the time. The hand-writing of the girl who will correct this just as soon as it leaves my type-writer is worth, at least, 25c. a day to her. If she should apply to me for a situation, I would estimate it at that. If you cannot all write as well as she, you can at least all improve greatly. Our friend Hutchinson, who fills the first page every month, though by no means a pretty writer, writes so plain that I can read it about as well as print; and it is so carefully punctuated that I do not have to pay a skilled and educated hand for preparing it for the journal. Since business, of late, is getting to be so much done by writing, will it not pay you to use these winter evenings to improve *your* hand-writing? Bad writing costs both you and myself,—I guess I won't say how much, every year. If you have something to sell, rig up the apparatus I have described on another page, and then your writing will be as good as money in the bank. One more thought; if the apology you write to those you are owing is well and carefully written, it may have the effect of softening them toward you.

Aside from the writing, learn to save money by manufacturing the things you must have, instead of buying them. I used to laugh at my mother for twisting up papers to light the lamp with, to save buying matches. When I laughed, I was not worth nearly as much as I am now, but, if she had the time to do it, I now think it was just right. Sit down with a pencil and paper, and figure on every article you are obliged to buy in your household. Ask God to help you and give you patience, and you will be astonished at what you can save. Of the things you have to buy, find out what amount you are going to need for a year, and then with your copying pad, get figures from several dealers, and examine their goods, and see where you can buy best. You will be astonished at the difference there is in prices, for the same article. I do not mean to have you penurious and niggardly, but I want you to be careful and faithful. Buy of those you are owing, in preference to anybody else, prices being equal, but pay cash down, and then you can ask for close figures with a clear conscience.

I am a yankee, and like to buy and sell, but may God help me, and you too, to buy

and sell so that those with whom we have to do will be benefited as well as ourselves. If you are a bee-keeper, have a neat place to retail your honey, and have every thing nice and convenient. If you are a carpenter, spend your evenings in planning and making little helps for the household, — things that many will want; and have the prices so low that your customers will be surprised as well as pleased; the same with the tinsmith; the same with the blacksmith; and so on all through; but in all that you do, my friends, pray and work at every step. Let your foremost object and aim be to benefit others, and your next, to get fair pay for your work. Never loose sight of the idea that it is better to work for 25 c. a day, than to remain idle. Do this, my friends, and you can not help succeeding; for, although the world is full of people, there is room, great room, and always will be room, for those who start out with the earnest determination to obey the command,

Seek ye first the kingdom of God, and his righteousness; and all these things shall be added unto you.

My friends, this is Christmas Eve. I am alone with my type-writer and the piles of letters you have been sending me. For years back, there have been warm, friendly expressions in them, in regard to the Home Papers, but this winter they exceed, by far, in numbers and in warmth of expression, what they ever did before. I once almost feared to go on with them. I can not fear now, for I am abundantly satisfied with the floods of cheer and encouraging words that have come from you. I tried, for a while, to reply briefly to you all, but it is now impossible; and I beg you will take this as a reply, and believe me, when I tell you that not one of these kind words has been lost, or passed by unheeded. I prayed that I might help you, and be of use to you, and God has answered this prayer; give him the thanks. What shall I do to show my gratitude to you all, this Christmas Eve?

I will tell you what I have been thinking. I have finished the Home Papers, or rather had finished them, and I mentally figured up what it would cost me to put in just two leaves more, that I might talk with you a little further on this occasion. It will cost me just about \$50 00; may God bless my words to-night, on these four pages, and may he make this investment a profitable one, for his name's sake!

I want first to give you a little picture of one of the homes where GLEANINGS goes. To explain it, I must remark, that I decided this year that it was not right to send out our price list, as I had heretofore done, with the journal, and so I mailed them all to you in Nov., paying the postage, which was quite a little bill. Several of you took the price list for Dec. GLEANINGS, it was so much enlarged; and among them our good friend whom I will now allow to speak for himself.

Bear in mind that he is thinking I have dropped the Home Papers.

Brother Root :—To-day I went down town, looked in my post office box, and saw a package. I thought at once, this is from Brother Root. I tore it open, and found I was right. I went into a store and thought I would read *Our Homes*, but found I was without my glasses. I hurried home; but when I

came there, my girl wanted me to put some window glass in before dinner; so, when dinner was ready, I took my glasses and the bee book, laid them beside my plate, asked God's blessing, and waited on grandmother, and then took up the bee book, thinking to read at least part of *Our Homes*, as you name it, before I ate my dinner; for I always like to read holy reading to my family, when we sit around the table, for there they will all hear it.

I opened the book, turned over, but couldn't find the place. I said to my children,

"I don't believe there is any home reading in this book."

One said,

"Oh! you have not found it yet."

But I looked it all through, and to my great surprise I found nothing that I looked for.

Well, I was completely puzzled, but could not allow myself to think for a moment that as good a man as A. I. Root had ceased to work in the vineyard of the Master; and yet, why not continue this important and extensive work, which would reach so many minds and hearts, and, without fail, be a blessing to many a one? Why, dear brother, your preaching is just what the world needs, and I know it is the spirit of God in your heart, that moves you. I believe that the good Lord has raised you up for this good work.

Now, just think what an instrument you can be, by putting in 2 or 3 pages of such holy reading, to gladden the hearts of many of God's children, and to bring in many who are not now his children, but who will call thee blessed in eternity. It is a message from God; send it along; it may be,—yes, I firmly believe it will be, as even mixed in meal; it will rise and spread till it reaches eternity.

Dear brother, we are the representatives of God, the light of the world, the salt of the earth; let us never become weary in well doing, but always be about our Master's business, and he will raise us up and give us in return the indwelling of his Holy Spirit, to rule in and over us.

If I had anything else to say to encourage you, I would not yet stop. But may God's blessing rest upon these lines, for the salvation of souls and to the glory of God.

Pray for me, and let me often hear of you. I may never see you here, but if we are faithful to our calling, we will meet in Heaven. Good-night, brother. Ypsilanti, Mich., Dec. 18, 1879. JOEL RESSLER.

Does it not seem as if you could really see our good friend hunting for his spectacles? and, when he finds he has left them, carefully putting the "bee-book" in his pocket? When he gets home, he attends patiently to all the little duties first, asks God's blessing on them all, then waits on grandmother (I am afraid I know somebody who might get a good lesson there), and at length wipes his glasses, and turns over the leaves for the "home reading." There was a providence in it all, friend R.; had you not made that little mistake, I should never have known what a warm place I had in that family circle away up there in Michigan. I think God's blessing has indeed rested on the lines you wrote, for long shall I remember and be encouraged by the thought that, in at least one home, my poor work has been called "holy reading," and has been given a place near to the family Bible.

Two letters have been received cautioning me against holding up "pious people who do not pay their debts." Here is one:

Will you allow one who is deeply interested in "Our Homes" department of GLEANINGS to suggest a query? If so, read on.

Are you really sure that your reply to H. Alley, in Dec. No., 1879, p. 498, was dictated by the Holy Spirit? Is this your special mission? Where would such a course lead as to the size of the journal and in its consequences to all concerned? Matt. vii. 1.—2d Thess. iii. 15. Would not a continuing of holding up the right, as shown in God's providential leading, in your very marked experiences, win from error better than holding them up to scorn? Matt. xviii. 15.—1st Sam. xii. 23.

However you may decide, I believe from the tone of your articles, you will not be offended by the suggestion of —
A FRIEND.

Delavan, Wis., Dec. 20, 1879.

To be sure, I am not offended, my friend, but my faith in Christian people is greater than you think perhaps. Of course, I did not mean, nor did friend Alley, those who wished to pay their debts and could not, but the class who make professions of Christianity on purpose to cheat their fellow men. I do not think GLEANINGS will ever have to be enlarged to give the names of such, nor have I the remotest idea that I shall ever have occasion to show up one who fears God. The man or boy who writes a square, honest, candid letter, when appealed to in such a matter, God will take care of, by raising up friends to his aid, wherever he may be placed. The matter came up at our noon-day service. Mr. Gray said he had never, in all his business experience which has extended to several states of our Union, known a man distressed for a debt, where he was honestly and faithfully doing all he could. Although I have no money to spare, show me a man or boy, girl or woman, who has the fear of the Lord in his heart, and who will go right along letting his actions speak as well as his words, and I will hand over the money that they may want, without a moment's hesitation.

This is a pretty strong assertion, my friends, I know; but, in every case that has come under my notice, where there was trouble and want, I could, by a very few questions, find some point where the individual refused to obey, and to trust himself and his affairs entirely in God's hands, as commanded in the word of God. From my stack of letters, here is one right to the point.

Brother Root:—A few years ago, I found myself without employment, and a thousand dollars below par, with a big family on my hands; but I promised the Lord I would be faithful, and work at the first job that turned to my hand. Well, it was a job of white-washing; and I have never seen the time since that I have not had all I could do, and I never had a man come to me for work but what I could find something for him to do. I have given employment to a doz. or more of hands, but among all of them, I have not found one to take care of my bees. What shall I do?
GEO. M. KELLOGG.

Pleasant Hill, Cass Co., Mo., Nov. 14, 1879.

There, boys, do you see the point? If our friend only received 25c. a day, for that white-washing, he would have been cheerful about it, for he was working for God, and God knew what wages was best for him. This trust and faith is what is wanted. Our friend is now a market gardener, employing many hands, and the poor fellow is in trouble now, because God, after having found him faithful in a few things, has made him ruler over so many that he can't get any body to take care of a part of them. Keep up your faith, friend K.; kneel down and ask God to send you a bee-keeper, and you will find one, without a particle of doubt. Perhaps you will find him where, of all the places on earth, you least expected him; for the dear Saviour seems to delight in showing us the overlooked blessings that have always existed almost under our very noses.

Do you think I speak positively of that of which I am not certain? Last summer, a young man who is working his way through

college wrote me that, while kneeling in prayer, God had directed him to come to me. Without hardly taking time to consider the matter, I told him to come along, and, after he got to Medina, I had forgotten about it, and came very near telling him I could not possibly make a place for him. I was almost out of health at the time, and was so worried trying to scrape up brains enough to make a good index to my A B C book, which was just completed, that I felt as if I hadn't a minute to look after anybody, especially a new comer. After looking up the letter to see what I had told the clerks to write him, I finally had faith enough to ask him to go with me to prayer meeting, and to feel that God would likely take care of us both. On my knees in the meeting, I asked God to show me what I could do for this new friend. To my surprise, the answer burst upon me that I could give him the index to compile, that he might take care of me, and ease my failing health, instead of my taking care of him. I found, next morning, that he was a skillful bee-keeper, as well as a scholar, and he took hold of the book, examined it in all its parts and phases, in a way that none but an outsider could do, and gave us the beautiful and comprehensive index which many of you have seen. Now, this is not half of it.

At the time I speak of, there was a poor fellow in jail, with whom I seemed to make little headway. In fact, I was discouraged with him, almost at the outset. Well, this young student went with me to the jail Sunday morning, and then, before I knew it, he was going into the jail evenings; and, pretty soon, he had carried this poor ignorant brother of his a slate and pencil, and later, a writing book and pens and ink. During the summer, he not only taught him to read and write, but he taught him of the Saviour's love, and from that humble stone room, the first letter the boy ever wrote in his life went home to his mother and sisters in Canada, exhorting them to become followers of the Saviour, and telling them of his new life.

Up, up, up, came "Chris," for that was what we used to call him, and when God opened his prison doors, and sent him out a free man, as he has done others before him, of whom I have told you, and as God always does, when it is best for them to be out, he was, in truth, a new man, and really born again. My friends, imagine those two, the teacher and the pupil, bending over their books in that little room,—the one happy, because he knew he was doing the will of Him who said, "I was sick and in prison, and ye visited me," the other, happy because he was forgetting his oaths and curses, his vile and filthy stories among his former associates (he had been a sailor on the lakes), and because he was beginning to drink of the pure waters of everlasting life. Do you wonder that it seems to me as if angels must have been hovering over them at such times? Chris has gone back to Canada, but God is with him. Mr. House, for it was he, has gone back to his college work, that he may be fitted for a missionary to Africa. Do you know how I thank God for the glimpses I had of the lives of those two? How I would

like to see their bright, pure, happy faces to-night! Shall I give you a little extract from the letters of each? They will forgive me for it, for they know I do it to help others.

I have settled myself in a very quiet place, having hired with a farmer for one year, for \$160.00.

I can go to church and Sunday school every Sunday. I would have liked to work for you, but I saw that you were not busy enough to employ me. I met some of my old shipmates, and found it no trouble to do right among them. It seemed very odd to them when I would not drink with them.

I shall never forget your kindness, and the trouble you took in teaching me. I send my best respects to you all. CHRISTOPHER IBBOTSON.

Kilbride, Ont., Can., Oct. 19, 1879.

My friends, the letter is written as well as the average ones I get from you, who have written for years instead of a few short months. May God bless you, Chris, for remembering the little I did for you. It was Mr. House, to whom you owe so much, but most of all to God, who moved our hearts to do this for a brother in trouble.

As to myself, I am getting on nicely, though I am greatly pressed by my studies. I work for my room, and by boarding myself, have reduced my board bill to 75c. per week. Two of us board together, and live on the "fat of the land" for the above amount.

We look forward to a great religious work this winter.

I often think of, and pray for, your work. By various means I hear of you very frequently. I think it was best, under the circumstances, to give up the Sunday School in Abbotsville, though it must have been a struggle for you.

How is the work at the Infirmary and at the Jail? The last I heard from Chris, he was in Canada; he had hired out on a farm for a year, and was receiving good wages.

The thoughts of my many Medina friends are among the most pleasant I have. Please remember me kindly to the shop hands, and also to Ernest and your wife.

In the fellowship of Christ, your friend, Oberlin College, O., Dec. 22, '79. W. B. HOUSE.

P. S. Last Sabbath, the 14th, Mr. Mathews, the one who is doing so great a work in the line of reading matter for jails, spoke in the 2d church. Perhaps you saw him in Medina. When a boy his home was here, and he was known as the one-armed boy who sold peanuts on the College square. A box of papers was sent from here. W. B. H.

Are not the angels watching over those two boys still? Will God not see to it that they do not suffer? I am afraid friend H. will scold me "awfully," for having put this in print, but the point of being able to board himself on 75c. per week, is just the illustration I wanted. Do you not see that one could lay up a little money, if he earned only 50c. a day? And do you not see that we all, every one of us, can lay up something, if we really want to. I have had many close talks with friend H., about these answers to prayer, and he has trusted me with his accounts of his close economy, in a way he would not otherwise have done. Should you go to dine with him, I think you would find it true, that they have plenty of good food, for this small sum. If you want to know how it is done, I shall have to refer you again to the opening chapters of Our Homes.

Do you not now get a clear view of what I meant when I said I did not fear to help those who were ready to obey? I engaged to pay him during his vacation a dollar a day. When he was ready to return, it was a real pleasure to me, to pay him all in a lump, 25c. extra for each day. This "lump" happened—was there really any *happen* about it?—happened to be just about the

amount he needed to enable him to start in school squarely with the world, and he called it, I presume, an answer to prayer. If you choose, I called it answer to prayer too. Our prayers were both answered, mine by giving, his by receiving.

I purposely retained the P. S. referring to Mr. Mathews. You see he commenced as a one armed peanut boy. Now he is perhaps the greatest worker for the inmates of our jails of any one in our land. The Express Co.'s have consented to carry his packages of religious papers *free*, to any prison in our land. Why do they do this? They are not often accused of having any conscience or "souls" at all. Is it not because God has listened to friend Mathews' prayers?

A few days ago, it came to my ears that the warden of the penitentiary had said, that the convicts from Medina Co., showed a marked difference from those of any other Co. in the state, in point of good behavior, and evidences of religious training. Are there not those among my readers who will try to have this so no longer?

Now, my friends, had I doubted God's hand in sending this young student to me, and sent him away, as I came very near doing, I should have lost this bright spot in my life, and missed the lesson I have just given you, in making missionary work a practical business with the slate and pencil, spelling book, etc.

Having eyes, see ye not? and having ears, hear ye not? and do ye not remember?—MARK, viii. 18.

Here is another brother who has a word to say about asking God to help us in our business.

Now, Mr. Root, we all know that you can make God do just as you want him to, as regards your business, and I have to request again, that you turn your great powers into a public channel, and request God not to kill any more of his children by floods, tornadoes, and earthquakes, and likewise shipwrecks. GEORGE K. WRIGHT.

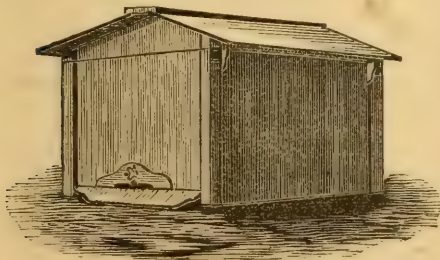
Cambria, Niagara Co., N. Y., Dec. 17, 1879.

Have you not got it a little "wrong side out," friend W? How would it sound for a very small boy to say that his father would do any thing he wanted him to do? Would it not be more rational for the boy to say that he tries to do every thing his father wishes him to do? If the father is a very good father, and the boy a good boy, would it not amount to much the same? It is because I have been trying to please my Heavenly Father, that I feel free to ask him for what I need, trusting confidently to his infinite wisdom to decide what is best for me, and those around me. I do not know about floods, tornadoes, etc., but, as he permits them, I am sure it must be right and best. Suppose we should pray that all the boys in our Ohio penitentiary might be let out just as they are, without any change of heart or purpose in life; would it be best to have such a prayer answered? Or would it be best for you or me to pray for a single inmate, say a son, in the same way? Before prayer can be answered, our lives must be in harmony with the spirit of Christ, and then our petitions will, of a necessity, be such as are pleasing in his sight. The loss of life, in the way you mention, as it seems to me, is a small matter, compared with the loss of souls, that is con-

tinually going on, right by our very doors. Mr. House' labors with Chris, resulted in the saving of a soul probably; was not this act of more weight with God, than saving the lives of men without affecting their spiritual condition, one way or the other?

SIMPLICITY CHAFF HIVE.

A FEW days ago, a very pretty model of a chaff hive came by express. The chaff packing only extends around the lower story, and, above that, we have the outside shell. For summer use, a Simplicity hive is set inside, over the lower story; but for winter, this is lifted right out, with the surplus combs, and set away. The whole space above is then filled with a large chaff cushion. The thin boards that cover the permanent chaff packing around the lower story are made with saw cuts which fully ventilate the chaff packing. My objection to it is, that these thin boards running through the chaff to the outside, furnish a path to the frost, and thus make a break in the perfect isolation which we get with the ordinary chaff hive. Also, the lifting out and replacing of the Simplicity hive in the upper story, I have found, by practice, to be to me a troublesome operation, on account of bees and propolis, as well as because it is heavy and unwieldy. As the idea has been a great many times advanced, I give place to it. Below is the engraving and friend D's remarks. The model is extremely well made, and aside from the above, it has several points which I like.



DEANE'S SIMPLICITY CHAFF HIVE.

For summer, set in a Simplicity. In winter, take it out, store your surplus combs in it, and put in a large chaff cushion to fill the upper story. The simplicity is the best hive I ever saw for convenience about an apiary, but I want the bees protected in winter.

Very little honey was made in this section, this year. I took 75 lb. from Simplicity Chaff Hive, and "many" lb. from unprotected Simplicity. Cause; it is so easy to build up early, in chaff hives.

Mortonville, Ky., Oct. 25, '79. C. H. DEANE, Sr.

We commence the New Year with 3,444 subscribers. Thank you.

We have heard nothing further of our friend, Frank Benton, only that he has gone and "got married."

To fold up the new section, let the top and bottom come between the two sides. It can be done so quickly, you will hardly know where the section came from.

I have received a sample of grape sugar made at Sagetown, Ills., that will kill bees without question. I should expect it to kill anything that was compelled to eat it. Further particulars next month.

This is what Lucinda L. Harrison says, in the *Prairie Farmer*:

Those persons who commence bee-keeping with colors flying, headed by a brass band, will be shut up in a few years by the sheriff.

ALL those having story and a half covers that leak, if they were bought of us, can have new ones at 1/2 price; that is, 15c. for painted ones, and from 10 to 12 1/2c. for those bought in the flat. If you can fix the old ones up, we will credit you with the above amounts. They are now all made similar to that shown in last Dec. No.

WHEN Mr. Langstroth visited us a few years ago, our photographer got some excellent large sized pictures of him; and, as we gave so good a one in the medley, the others have never been offered for sale. The best one is the right size for an 8x10 frame, and would be low at \$1.00. I will mail you one for that price, and send half of the money to Mr. Langstroth, or I will sell you the picture for 50c., and let you send directly to Mr. L., what you think proper.

DURING the past year, we have omitted the groove in our section boxes, believing the plan given in our price list so much better. With the great improvement in sections, we think no one will complain, if the price is left at \$5.00 per thousand. We can furnish a tin cup set in a board, arranged so as to make a nice little work table for putting in the starters, ready to be screwed to any bench or table, for 25c. An engraving will be given of the apparatus next month. The automatic machine mentioned last month is spinning merrily on the sections today, but the engraving of it is not quite ready for this No. It works away, all of itself, "like a thing of life," and Mr. Gray is happy.

Conventions.

Notices of Conventions, condensed so as to occupy not over two lines, will be inserted free of charge.

CONVENTION DIRECTORY.

TIME AND PLACE OF MEETING.

1880.

Jan. 13.—North Western Ill., and South Western Wis., annual, at Davis, Ill.

Jan. 13.—Indiana Bee Keepers' Association, at Indianapolis, Ind.

Jan. 13.—Inter County Conventionists, Springfield, Mich.

Feb. 11.—North Eastern, at Utica, N. Y.

SEEDS! SEEDS!

Test is better than talk. I will send 8 packets of Garden Seed for 25 cents, to any address, postage paid by me. I have a nice lot of Red Wethersfield Onion seed, for 5 cents per packet. Orders promptly filled. Address H. F. LAMB, Caledonia, Ringgold Co., Iowa.

Wanted!

Seed of the Blue Thistle. Those having it, and willing to furnish a small quantity, will please to write us, giving price. Address A. I. ROOT, Medina, O.

Foundation Machines,

MANUFACTURED BY

JOHN BOURGMEYER,

Fond du Lac, Wis.

Send for Circular and Samples. 1-3d

HONEY and Full Stocks of Yellow **BEEES**, For sale, in large or small quantities, Not Excelled in any Point of Value.

Address. J. M. Marvin, St. Charles, Kane Co., Ill.

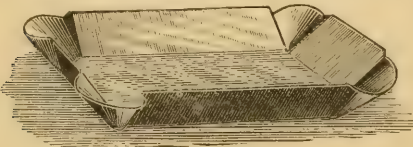
1d

TIN WARE FOR THE HONEY BUSINESS.

PACKAGES TO GIVE AWAY WITH THE HONEY WHEN SOLD.

IT seems to have been pretty well demonstrated of late, that the best thing in which to keep honey is tin. Those who have been in the retail trade know how annoying it is to have customers always borrowing dishes to carry the honey home in. To wait on customers expeditiously, we want something they need not be under the necessity of bringing back again, and something so cheap that no one will object to paying a trifle more for the honey in order to cover the cost of the dish, pail or plate. As five and ten cent stores are quite fashionable now, we will commence with a plate small enough to hold a half pound of either extracted (candied) or comb honey. The former will be five cents, and the latter ten cents, including the bright, new tin plate, a good deal brighter, in fact, than a silver dollar. These plates we can furnish for 75c. per hundred.

The next size is for one pound, and is worth \$1.00 per hundred. They are to be sold, with the honey, for 10 and 20 cents.



THE NEW TIN PLATES FOR RETAILING HONEY.

The largest size, shown in the cut above, holds 2 lb., and the price is \$1.75 per hundred. Of course, these packages are for retailing right in your own town and neighborhood, and are not suited to carry any distance. For distant customers, there is nothing like tin pails. The loose cover will allow the honey to expand in candying, while it keeps out all dust, etc., and can readily be opened and closed. A two quart pail seems to be most in favor, for almost any family can make use of them, for the low price of 12c. Stamped covers can be bought for 2c., a pair of ears for ½c., a sheet of 14x20 tin, costing 9c., will make 3 bodies, a sheet of the same will make 6 bottoms, and the bail and solder will perhaps cost ½c. more. This makes all together, 7½c. Close work I tell you, boys, to do the work and retail them for 4½c., but it can be done. By buying the materials in quantities, and having the pails made in large numbers, by the piece, they can be sold for 12c. at a small profit. If japanned, and lettered "Pure Honey," they are worth about 20c.



TWO-QUART HONEY PAIL.

Here is a query:

I would like it, if you would inform us, through GLEANINGS, what size to cut tin for 1 lb., 50 lb., and 5 lb. tin cans. ROBERT ROBERTSON, Tennyson, Lanark Co., Ont., Ca.

The 25 lb. can is 10 inches high, and 8½ in diameter. Get sheets of tin for the body 10x28, or cut one of the size mentioned above through the middle, so it can be locked together again, making a sheet about that size. Another sheet will make top and bottom, and have a piece left.

The cost of the materials will be now, about 18c., which leaves 7c. for making and profit. These, too, must be made by the piece, or you will be in danger of having them cost more than you get for them, if sold at 25c.

The 50 lb. can is made of a sheet and a half of the 14x20 tin. This would make it 14 inches high, and 10 in diameter. Just 2½ sheets of tin will make the whole, and the cost will be—say 30c. for the materials and 10c. for the work. This can be sold for 50c., without very much trouble.

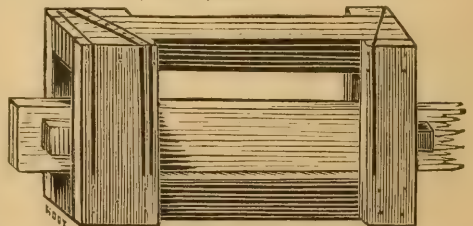
The 100 lb. can has a bottom as large as you can make out of the above sheets; therefore it will take 3 sheets standing perpendicularly, to make the sides. As this can has a slanting top, we will cut the 3 sheets off at 17½ inches, and put on a top like that shown in the catalogue. About 5 sheets will be required, and we shall need to take the better quality of tin, at 11c. per sheet. Perhaps all the materials will cost 60c., and 20 more will pay for the making, if you order of your tinner a dozen cans at a time.

A MITER BOX FOR THOSE WHO MAKE HIVES BY HAND.

AS I have to make my hives by hand, I have made a miter box, which I find very convenient. I believe you could sell a good many, if you would keep them on hand. I take 2 pieces about 16 in. long, or rather 4 pieces I should say, 2 of them 4 in. wide, and the other two 8 in. wide, and nail them to a piece of 2x4. It has just occurred to me that I cannot describe it so that you would understand it, and will therefore make a small model and enclose it.

WM. OLDROYD.

Columbus, O., Dec. 6, 1879.



OLDROYD'S MITER-BOX.

Many thanks, friend O. Your idea is one I have often thought of, but you have accomplished the desired result very cheaply, and your device for wedging the board up so that it is a fixture is excellent. By having such a machine made long enough, it can be arranged with the necessary stops to cut the boards exactly right, without any measuring. With a good saw, in good order, such a machine may not be so very much behind a foot-power saw, for many kinds of work.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For description of the various articles, see our Twenty-First Edition Circular and Price List, mailed on application.

For directions *How to Make* all these various articles and implements, see A B C of Bee Culture.

This Price List to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of postage required.

To Canada, merchandise by mail is limited to 8½ oz., and nothing can be sent for less than 10 cents.

	A B C of Bee Culture, Five Parts complete in one, paper cover.....	1 00
	The same, neatly bound in cloth.....	1 25
	Single Parts, in paper, each.....	25
15	Alighting Board, detachable (See A B C) \$	10
	Alsike Clover. See seeds.	
	Balances, spring, for suspended hive (60 lbs.)	8 00
	Barrels for honey.....	2 50
	" " waxed and painted.....	3 50
10	Basket for broken combs to be hung in the Extractor.....	25
	Basswood Trees for planting. See price list.	
	Bees, per colony, from \$8 to \$16. See price list.	
10	Bee-Hunting Box, with printed instructions	25
0	Binder, Emerson's, for GLEANINGS.....	50, 60, 75
10	Blocks, iron, for metal cornered frame making.....	15
	Buckwheat. See seeds.	
10	Burlap for covering bees, 40 in. wide, per yd.	10
	Buzz-Saw, foot-power, complete.....	35 00
	Buzz-Saws, extra, 80c. to \$3.25. See price list.	
60	Buzz-Saw mandrel and boxes complete for 6 inch saws (no saws included).....	5 00
	The same for 7 and 8 in. saws (not mailable)	7 00
3	Cages for queens, provisioned (See price list)	10
30	" " per doz.....	1 00
20	Candy for bees, can be fed at any season, per lb.....	.08 to 15
	Cans for shipping extracted honey (See Honey), from 25c to \$2.00.	
0	Cards, queen registering, per doz.....	06
0	" " per 100.....	40
60	Chaff Cushions for wintering (See A B C).....	30
9	" " without the chaff.....	20
	Chaff Hive (See Hives).....	5 00
2	Cheese cloth, for strainers, per yard.....	06
	Clamps for making section boxes.....	75
10	Clasps for transferring, package of 100.....	15
	Climbers for Bee-Hunting.....	2 50
	Comb Basket, made of tin, holds 5 frames, has hinged cover and pair of handles.....	1 50
	Comb Foundation Machines complete \$15 to 100 00	
10	Comb Holder to put on edge of hive.....	25
20	Combs in metal cornered frames, complete	50
20	Corners, metal, per 100.....	60
15	" " top only, per 100.....	40
	" " bottom, per 100.....	40
	Corners, Machinery complete for making \$250 00	
	Crate for shipping comb honey. See Hives.	
40	Division Boards of cloth and chaff.....	20
12	Duck, for covering frames and for feeders, 29 inches wide, per yd.....	20
15	Enameled Cloth, bees seldom bite or propolize it, per yard, 45 inches wide, 30c. By the piece (12 yards).....	28
	Extractors, according to size of frame, \$6 50 to 10 00.	
	" Inside and gearing, including Honey-gate.....	5 00
	" Hoops to go around the top.....	50
5	" per doz.....	5 00
7	Feeder, Simplicity (See price list) 1 pint.....	05
4	Feeders, 1 quart, tin,.....	10
25	The same, half size.....	05
20	The same, 6 qts, to be used in upper story	15
2	Feeders, open air.....	15
07	Files for small circular rip saws, new and valuable, 20c; per doz. by express.....	2 00
1	" The same, large size, double above prices.	
60	" 3 cornered, for cross-cut saws, 10c; doz	1 00
5	Foundation. See Comb Foundation.	
	Fountain Pump, or Swarm Arrestor.....	8 50
	Frames with sample Rabbet and Clasps.....	10

18	Galvanized Iron Wire for grapevine trellises per lb. (about 100 feet).....	20
25	Gates for Extractors tinned for soldering..	50
	Gauge for planing lumber, brass.....	50
50	" " making hives (See Hives).....	50
0	Gearing for Extractor with supporting arm Glass. See price list.	1 25
0	GLEANINGS, per year.....	1 00
	For prices of back vol's, see price list.	
	Gloves. See Rubber Gloves.	
	Grape Sugar for feeding bees. See price list.	
	Grape vines for shading hives. See price list.	
	Hammers and nails. See price list.	
	Hives from 50c to \$6 25. See price list.	
	Honey. See price list.	
	" Plants. See seeds.	
0	Honey Knives, straight .75; curved blade..	1 00
	" " ½ doz, by mail.....	4 00
	" " ½ doz by Express.....	3 75
	Jars for shipping extracted honey. See Honey.	
	Labels for honey, from 25 to 50c per 100; for particulars see price list.	
0	Lamp Nursery, for hatching queen cells...	5 00
	Larvae, for queen rearing, from June to Sept.....	25
15	Leather for smoker bellows, per side.....	50
0	Lithograph of the Hexagonal Apiary.....	25
0	Magnifying Glass, pocket.....	30
	" " Double lens, brass, on three feet.....	75
0	Medley of Bee-Keepers' Photo's, 150 photo's	1 00
12	Microscope, Compound, in Mahogany box Prepared objects for above, such as bee's wing, sting, eye, foot, &c, each	2 50
7	Muslin, Indian head, for quilts and cushions, pretty stout, but not good as duck, per yard.....	20
	Nails. See Hammers and nails.	10
10	Opera Glasses for Bee-Hunting.....	5 00
18	Paraffine, for waxing barrels, per lb.....	25
	Photo of House Apiary and improvements Planes and Planers. See price list.	25
15	Pruning saws for taking down swarms, 75 and 85	
0	Queens, 25c to \$6 00. See price list.	
2	Rabbits, metal, per foot.....	02
0	Rubber Gloves, \$1.50 and \$1.75. See price list.	
0	Rubber Stamps, \$1.50 to 3.00. See price list.	
0	Rules, (See Pocket Rules) 12 and 16c.	
10	Salicylic acid, for foul brood, per oz.....	50
	Saw Set for Circular Saws.....	75
	Saws. See Circular Saws.	
	Scales for weighing honey, etc. See price list.	
0	Scissors, for clipping queen's wings.....	40
0	Screw Drivers, all metal (and wrench combined) 4½ inch, 10c; 5 inch, 15c.	
6	Section Boxes, fancy, hearts, stars, crosses, &c., each.....	05
	Section Honey Box, a sample with strip of fdn. and printed instructions.....	05
	Section Boxes in the flat by the quantity, \$6 00 per thousand and upwards, according to size; for particulars, see price list.	
12	Case of 3 section boxes, showing the way in which the separators are used, suitable for any kind of hive (See price list)	08

SEEDS OF HONEY PLANTS.

18	Seed, Alsike Clover, raised near us, per lb..	30
18	" Catnip, good seed, per oz. 10c; per lb.	1 00
0	" Chinese Mustard, per oz.....	10
20	" Mellilot, or Sweet Clover, per lb.....	30
18	" White Dutch Clover, per lb.....	30
18	" Motherwort, per oz. 10c; per lb.....	1 00
18	" Mignonette, (per lb. (20c per oz.).....	1 40
18	" Simpson Honey Plant, per oz.....	50
18	" Silver Hull Buckwheat, per lb.....	10
	" " peck, by Express	60
18	" Common " per peck.....	50
	" Summer Rape. Sow in June and	
	" July, per lb.....	15
	" Spider plant, per oz.....	50
	A small package of any of the above seeds will be sent for 5 cents.	
	Separators, tin, for section boxes. See Section Boxes.	
5	Sheets of Enameled Cloth to keep the bees from soiling or eating the cushions.....	10
	Shipping Cases for 43 section frames of honey.....	50
	The same for 24 sections.....	30
	(This size can be sent by mail in the flat, for 75c.)	
1	Slate Tablets to hang on hives.....	1½

SMOKERS.

	Smoker, Quinby's (to Canada 15c extra)	1 50 & 1 75
5	" Doolittle's, to be held in the mouth	25
	" Bingham's \$1 00; 1 50;	1 75
25	" OUR OWN, see illustration in price list	75
00	Soldering Implements.....	1 00
	Swarming Box.....	75
2	Tacks, tinned, per paper, (three sizes).....	05
	For larger quantities see Hammers and nails.	
5	Thermometers.....	20
10	Transferring clasps, package of 100.....	15
	Tin, see price list.	
0	Veils, Bee, with face of Brussels net, (silk)	75
	The same, all of grenadine (almost as good)	50
	Veils, material for, grenadine, much stronger than tarlatan, 21 inches in width, per yard.....	20
	Brussels Net, for face of veil, 29 inches in width, per yard.....	1 50
	Wax Extractor.....	3 00
	Copper bottomed boiler for above.....	1 00
5	Wire cloth, for Extractors, tinned, per square foot.....	10
2	Wire cloth, for queen cages.....	10
	Above is tinned, and meshes are 5 and 18 to the inch respectively.....	
3	Wire cloth, painted, for shipping bees, 14 mesh to the inch, per square foot.....	05
	Wire for grape vine trellises. See Galvanized iron wire	

All goods delivered on board the cars here at prices named.
A. I. ROOT, Medina, Ohio.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent before July 1st. If wanted sooner, see rates in price list.

*E. W. Hale, Wirt C. H. W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-3tf
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	1tf
Miller & Hollam, Kewaskum, Wash Co., Wis.	4-4
*J. T. Wilson, Mortonville, Woodford Co. Ky	4-4
J. L. Bowers, Berryville, Clarke Co., Va.	1-4
*King & White, New London, O.	12tf
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*J. R. Landes, Albion, Ashtland Co., O.	1tf
*J. E. Walcher, Millersville, Christian Co., Ills.	1-6
*D. A. McCord, Oxford, Butler Co., O.	2-1
*D. E. Best, Best, Lehigh Co., Penn.	2

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
H. Scovell, Columbus, Cherokee Co., Kans.	4-3
P. L. Viallon, Bayou Goula, Iberville Par., La.	1tf
Milo S. West, Pontiac, Oakland Co., Mich.	1-6
A. A. Fradenburg, Port Washington, Tus., Co., O.	1-6
Geo. Clark, Blissfield, Len., Co., Mich.	1-2

SWEET HOME RASPBERRIES.

Originated by D. D. Palmer, New Boston, Ill. 1030 berries picked from one cane. Never winter kills. The largest and best black cap. Send for circular.

NOTICES OF THE A B C.

A B C received in good order. All I have to say is that it is the best book on the subject I have ever had the pleasure of reading. O. A. HOAG.
West Union, Mo., Aug. 30, 1879.

If I could not get another "A B C of Bee Culture," I would not take \$10. for mine. It is the triple rectified, double distilled essence of bee-keeping, boiled down. JAS. A. TAYLOR.
Austin, Texas, Oct. 24, 1879.

Hope the new shop will be as great a success as the A B C has been; for I consider it of more benefit to persons going into the business than anything yet published. R. N. MCINTYRE.
Daytona, Fla., Dec. 28, 1878.

On the stand at my right hand, is the "A B C of Bee Culture," which cost us \$1.00; and to-day we would not take five dollars for it, and do without a book of the same kind. J. F. RUNNION.
Spencer, W. Va.

Your A B C is a perfect treat to me, and, conscientiously, I must say, it is by far the most practical book, on the subject, ever published; for I have read and studied almost every book of note that has appeared in the English language. This may seem like flattery, but to show you that I mean what I say, I have ordered through Geo. Rollins & Sons, American agents, London, 30 copies, bound in cloth, and I am quite certain this is only my first consignment, as I shall certainly sell everyone of them. R. M. GREIG.
Park Hill, Near Aberdeen, Scotland, Nov. 6, '79.

We are indebted to Mr. A. I. Root, of Medina, O., for a copy of his "A B C of Bee Culture," a useful handbook containing a large amount of information relating to bees, hives, implements, honey plants, &c. The author states that the facts given in his little treatise are principally derived from the experience of thousands of persons scattered all over the country who have communicated their knowledge, and likewise from tests made in his own apiary during a number of years. Mr. Root is a bee keeper on a large scale, and his own experience added to that of so many other persons must form the basis of a great deal of valuable practical information respecting the honey bee.—*American Grocer.*

I have received your A B C, and it contains so much information for me, that I would not take \$100 for it, could I not get another. I have been in the bee business 40 years; that is, I have found more wild bees than any other man in this country, and all I knew about them was nothing, until I studied A B C. I would recommend every man or woman who keeps bees to send for it at once. We keep 20 colonies at present, and we hope to get them through till spring. We are feeding candy, and, had we not had A B C, we would have lost most of them, as our bees made but very little honey the past summer. O. DOUGLASS.

Whitmore Lake, Mich., Jan. 19, 1880.

SYMPHORICARPUS VULGARIS PLANTS.

During February and March, I will deliver on board the cars at Reeds, Mo., *Symphoricarpus vulgaris* plants, at the following rates, purchasers paying charges: 100 plants, \$1.25; 200, \$2.50; 500, \$5.25; 1000, \$10; 2000, \$19. Where ten dollars' worth are taken at one time, will take one-half the price in Italian queens at prices in GLEANINGS.

Address NORRIS C. HOOD,
Reeds, Jasper Co., Mo.

SEND FOR CIRCULAR

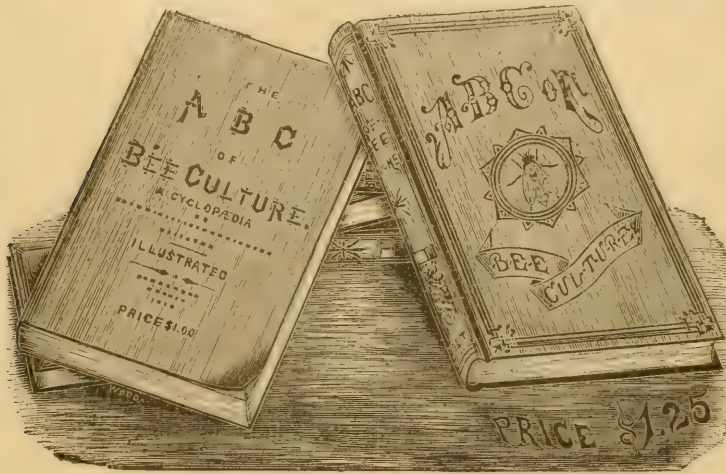
and Price List for Simplicity, and One-story Simplicity, Chaff Hives. Address C. H. DEANE, SR.,
2-5d Mortonville, Woodford Co., Ky.

Hale's Price List.

Send for my Circular and Price List for 1880. Early Queens a specialty. Address
2-11d E. W. HALE, Wirt C. H., W. Va.

THE

A B C of BEE CULTURE.



FOR several years, it has been my ambition to be able to write a book on bee culture, so clear and plain that not only any boy or girl, but even an old man or woman, with the book and a hive of bees, could learn modern bee culture, and make a fair, paying business, *even the first season*. This is a great undertaking, I grant; and it will require some one with far greater wisdom than mine, to do it the first time trying. After watching beginners, and answering their questions almost constantly, for years, I came to the conclusion, that the only way to do it was to "cut and try," as carpenters say, when they can't get the exact dimensions of the article they wish to make.

To cut and try on the A B C book, I have invested over \$2,000 in type, chases, etc., sufficient to keep my whole book standing constantly in type, that can be changed at a moment's notice. The books are printed only as fast as wanted, and just as soon as I see I have omitted anything, or have made any mistake, the correction is made before any more books are sent out. To show you how it works, and how it succeeds, I will give you an illustration.

A beginner writes to know if it is of any use to keep a queen, after she is eighteen days old and does not lay. Now I know very well that a queen should lay when from ten days to two weeks old; and also, that they will sometimes not commence until they are three weeks old, and then make good queens. Now, although I directed that they should be tossed up in the air, to see if their wings were good, when they did not lay at two weeks of age, I did not say, if their wings proved to be good, how long we should keep them. If I could spare the time of the colony, I would keep a good looking queen that could fly well, until she is 25 days old; if crowded for a place to put cells, I would kill all that do not lay at 18 or 20 days old.

I have just put the above in the A B C, and that is just the way I am going to keep doing. You see, you beginners are, ultimately, to build up the book.

The book, as it is now, contains about 275 pages and about 175 engravings. It is furnished complete in one, or in 5 different parts. The contents and prices are as follows:

Part First, will tell you all about the latest improvements in securing and **Marketing Honey**, the new **1 B. Section Honey Boxes**, making **Artificial Honey Comb**, **Candy for Bees**, **Bee Hunting**, **Artificial Swarming**, **Bee Moth**, &c., &c.

Part Second, tells all about **Hive Making**, **Diseases of Bees**, **Drones**, **How to Make an Extractor**, **Extracted Honey**, **Feeding and Feeders**, **Foul Brood**, etc, etc.

Part Third, tells all about **Honey Comb**, **Honey Dew**, **Hybrids**, **Italianizing**, **King Birds**, **The Locust Tree**, **Moving Bees**, **The Lamp Nursery**, **Mignonnette**, **Milkweed**, **Motherwort**, **Mustard**, **Nucleus**, **Pollen**, **Propolis**, and **Queens**.

Part Fourth tells all about **Rape**, **Raspberry**, **Ratan**, **Robbing**, **Rocky Mountain Bee Plant**, **Sage**, **Smokers**, including instructions for making with illustrations, **Soldering**, **Sourwood**, **Stings**, **Sumac**, **Spider Flower**, **Sunflower**, **Swarming**, **Teasel**, **Toads**, **Transferring**, and **Turnip**.

Part Fifth tells about **Uniting Bees**, **Veils**, **Ventilation**, **Vinegar**, **Wax**, **Water for Bees**, **Whitewood**, and **Wintering**. It also includes a **Glossary of Terms and Abbreviations** used in **Bee Culture**.

All are Profusely Illustrated with Engravings.

Nothing Patented. Either one will be mailed for 25c; ½ doz., \$1.25; 1 doz., \$2.25; 40, \$6.00.

The five parts bound in one, in paper, mailed, for \$1.00. At wholesale, same price as GLEANINGS, with which it may be clubbed. One copy, \$1.00; three copies, \$2.50; five copies, \$3.75; ten copies, \$6.00.

The same neatly bound in cloth, with the covers neatly embellished in embossing and gold, one copy, \$1.25; three copies, \$3.25; five copies, \$5.00; ten copies, \$9.00. If ordered by freight or Express, the postage may be deducted, which will be 3c on each 25c book, 13c on the complete book in paper, and 16c each, on the complete book in cloth.

A. I. ROOT, Medina, O.

Contents of This Number.

Notes from the Banner Apiary. No. 2. Alsike Clover.....	55
Foundation Machine, Expressly for Starters.....	56
Early-Amber Sugar Cane: Cane Syrup for Bees; Clarifying Cane Syrup with Clay; Bees and Sugar-Cane Mills.....	57
Visit from an Old Friend, and What He Talked About; Bees Drinking at Their Hives; Bees and Grapes; Bees Balling Their Own Queen; Spring Dwindling; Fdn. in Sections; White Dutch Clover.....	59
My Wax Extractor.....	59
Fdn. Mills Cheaper; Bourgmeier's Mill.....	60
Given's Machine for Making Fdn. in Wired Frames.....	61
Our Own Apiary.....	62
Gallup's Ideas on Bee Culture in California.....	63
Do Bees Eat Grapes?.....	63
Gray's New Section Box and Machine for Making It. Also Some New Ideas in Making Wooden Boxes; How to Make Sections to be Glased.....	64
Queens are Permitted to Go by Mail.....	65
Protecting with Corn Fodder; Chaff Packing Better; Introducing without Ceremonies; Why Do Bees Leave for the Woods? Two Swarms Separating Themselves; Letting Bees Starve After They Have Given a Crop of Honey.....	66
Winter Covering Under the Cushions; Enamelled Sheets.....	66
How Friend Steele Learned His First Lesson, and Didn't Get Stung After All.....	67
Select Queen Raising.....	68
Simpson Honey Plant and Its Cultivation.....	68
Artificial Pollen and Flour Feeding; How to Start Bees to Working on Meal.....	68
Simpson and Spider Plant; Raising Plants for Spring Planting.....	69
Eight or Ten Frame Hives.....	69
Another Feeder.....	70
Honey Dew: Do the Leaves of Trees, as well as Blossoms, sometimes Secrete Honey? Origin of Honey Dew.....	70
THE GROWLERY.	
Giving Premiums.....	56
BEE BOTANY AND ENTOMOLOGY.	
Water-Leaf as a Honey Plant; The Tochina Fly; Purple Thoroughwort as a Late Honey Plant; Blue Thistle Plants; Blue Thistle in Michigan.....	58
THE SMILERY.	
LADIES' DEPARTMENT.	
Natural versus Artificial Swarming.....	67
BLASTED HOPES.	
Buckwheat not Always a Honey Plant.....	81
HUMBUGS AND SWINDLES.	
Mrs. Cotton; N. C. Mitchell; Patents and Patent Hives, in General.....	81
HEADS OF GRAIN.	
The Quarrel about the Sunshine; Honey Plants and Their Cultivation; Queenlessness in Cold Weather; Saving Bees That Are to Be Brimstoned; Surplus Pollen; Dead Bees in Front of the Hives; Harvesting Alsike Clover Seed.....	71
Comb Building in Spring Rather than Fall; Doolittle's Theory about Dormant Eggs; Ducks' Feathers for Wintering Bees; To Make Chaff Cushions with Little Cost; Moores' "Jimmy" for the Apiary.....	72
Does a Queen Lay Drone and Worker Eggs Alternately? and How? Is Frequent Handling Detrimental? Introducing Cage for Cold Weather; Spider Plant not Always a Success.....	73
Artificial Pasturage; Movable Frames and Italians, versus Blacks and Box Hives; What Mice May Do; From 8 to 30, and 900lb. of Honey; Grape-Sugar Candy Made with Honey; Prepared Paper as Roofing for Hives; Open-Air Feeding in Spring; Keeping Bees on Shares; Why Does Candy Drip Queens,—How Even Imported Ones Differ; Honey Dew That "Is Dew"; Fastening the Combs to the Separators; Carpeting for Covering the Frames; Sourwood Boney.....	75

Italians Robbing Blacks; Do Bees Rob because They Lack Stores? Shipping Bees in the Winter; Carrying in Flour in Jan.; Blasted Hopes; Robbing the Neighbors' Bees; Baker's Division Board—Correction; How Friend Kendig Gets a Big Crop of Honey in a Poor Season; Strong Stocks to Get Honey.....	76
How to Make Full Sheets of Fdn., with a little Wax; The Red Raspberry as a Honey Plant; Leaves versus Chaff; A Word in Defense of Friend Alley; The Decimal System of Weights, Measures, etc.....	77
Wool for Cushions; Bees by the Pound; Can a Queen Feed Herself? Honey of the South; Wired Frames for Fdn.; Transferring in Dec.; Buckwheat in Northern Localities.....	78

NOTES AND QUERIES.

Simpson Honey Plant,—It Has Medicinal Properties; Good for Canada; Fuel for Smokers; How to Sow Amber Sugar Cane; Does It Pay to Raise Queens? Honey Dew from the Oak; Coarser Wire Cloth for Extractors; Is the Spider Plant or Simpson Honey Plant a Bad Weed? Can the Seven-Top Turnip Seed Be Made to Bloom the First Season? Packing Chaff Cushions; Friend Harrington's House Apiary; Good Report of Hybrids; Introducing at Swarming Time; Chaff Packing for Mild Winters; Can an Imported Queen's Daughter Produce Any Bees All Black?.....	79
Wintering on Candy Alone; Oat Hulls for Winter Packing; Keeping a Cash Balance for Purchases; What to Do with Box Hives That Are Short of Stores in Winter; Cheap Way of Fixing Leaky Roofs; Flat Bottomed Fdn.; Extracting Unsealed Honey for Winter; First Report of the Bee Malady.....	80
Grape Sugar Candy.....	65

EDITORIALS.

Foot-power Grindstones; Cheirograph; Pollen not Absolutely Necessary for Wintering; The New Section Box.....	82
Saws for Making the New Section Box.....	61
Dipped Fdn. versus Rolled.....	88
HONEY COLUMN.....	88
CONVENTIONS.....	88

100 COLONIES OF BEES FOR SALE!

I will sell very cheap (as owners are dead), 100 Colonies of Bees in L. hives; 1 Barnes Foot Power Buzz Saw; 2 Extractors; Honey bottles, 1 and 2 lb.; 20, 40, and 80 gal. cans; a lot of Circular Saws, Files, Wire Cloth for cages and Extractors, Show Cases, &c.

C. H. GETCHELL,
230 Main St., Memphis, Tenn.

CANADA ONLY.

Summer Rape seed and Sweet Clover seed. Either kind, 15c per pound, post free. H. SMITH,
2d Box 102, New Hamburg, Ontario.

CHEAP BEES!

About 30 Colonies in good, movable-comb hives, at \$5. each. E. A. GASTMAN,
2 Decatur, Macon Co., Ill.

CHEAP HIVES AND CHEAP SECTIONS!

The best Bee Hives, Honey Boxes, Sections, Section Cases, Shipping Crates, etc.,

FOR THE LEAST MONEY.

Manufacturers of the "**Lewis**" Section, all in one piece. The

Finest Section in the World!

Not only formerly known as the Lewis Section, but still known as the Lewis Section; and we are the sole and only manufacturer thereof in the United States, and the original inventors of the same. From 50 to 100 thousand sold during the past three months.

Send for Price List.

LEWIS & PARKS,

11f.d

Watertown, Wis.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

FEBRUARY 1, 1880.

No. 2.

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 Per Annum in Advance; 3 Copies for \$2.50; 5 for \$3.75; 10 or more, 60c. each. Single Number, 10c.

NOTES FROM THE BANNER APIARY.

No. 3.

ALSIKE CLOVER.

I HAVE read considerable about Alsike clover, but now I know something about it by actual experience. On Mar. 26th, 1878, I sowed 12 lb. of Alsike-clover seed upon two acres of land. I believe the general rule is to sow 4 lb. of seed to the acre; but 4 lb. seemed such a small amount of seed to scatter over an acre of ground that I thought I would better put on a little more. I now think, however, that perhaps 4 lb. is enough, as the clover on my "patch" is a "perfect mat." Wheat had been sown on the ground the preceding autumn. This wheat was harvested very early in the season, and the Alsike made a good growth, blossomed considerably, and, during Sept. and Oct., the bees worked upon it quite freely. When the blossoms ripened, they were quite well filled with seed; in fact, I thought quite seriously, at one time, of cutting it for seed, but I finally decided to turn in the old cow and let her cut it.

One side of the plat of ground borders on a small stream, while the center of the plat is sandy upland, and the other side is clay upland. On the side next the stream, where the soil was damp, the clover was much the best; on the sandy upland it was better than red clover that grew by its side; while upon the hard clay upland it was not quite so heavy as the red clover that grew near it.

From the middle of June, '79, until about the middle of July, this little "patch" of Alsike was a "perfect sea" of pink blossoms; and, until basswood opened its blossoms (about July 10th), this "perfect sea" was roaring with the merry hum of the Italians. To one standing in the field, the hum of the bees would be almost as loud as in the apiary.

There is plenty of white clover in this vicinity, but it was entirely neglected for the Alsike. I do not know whether it was because white clover failed to secrete much honey, or whether it was because they could "do better" working on the Alsike; but I do know that I did not see a dozen bees working on white clover while the Alsike remained in blossom.

I believe I mentioned, in my last article, that I had 300 lb. of surplus Alsike-clover honey; but this was not the only advantage of the Alsike; the bees were brought into splendid condition for the basswood harvest.

The clover was left standing until it was very ripe, when it was cut with a scythe for seed. I let the job

of cutting and thrashing it, on shares. Alsike-clover seed shells very much easier than red-clover seed, and when mine was dry and fit to draw in, we found that a great deal of the seed was shelled in handling it; therefore, we left it until a rain should come and dampen it. But before the man "got around" to draw it, there had been several hard rainstorms, and, when we were drawing it in, I noticed that the rain had thrashed the seed from nearly all of the heads that were exposed; not only this, but the clover had grown up under the swaths, so that we shelled considerable seed in pulling it loose. I think, if it had been cut a little earlier, and I had had a team of my own, so that I could have drawn in a load every morning when the dew was on, there would have been much more seed saved; as it was, however, there were three bushels.

I should have made more money if I had cut it for hay, as there was a heavy growth, and it would have yielded more than a ton per acre. I think I shall cut it for hay another season. If raising it for hay instead of seed, I should sow some timothy seed with it.

A neighbor, living a mile from here, sowed two acres to Alsike at the same time that I did, and did not have very good success. Perhaps it was because he pastured his more than I did mine, and perhaps it was on account of the soil. It made a very short growth, and I believe he cut it for hay. Although he is a bee-keeper, he says he has lost money by the experiment, and has a very poor opinion of Alsike clover.

A few years ago, a man who then lived a few miles west of here raised a large field of Alsike clover. It was cut for seed, and the yield was good. I can not say just how much seed was obtained per acre, but I know that the yield was a great deal better than mine.

My advice in regard to Alsike clover would be, sow only an acre or two, or even a smaller patch, and see how it succeeds. If it is a success, you can sow more another year; while, if it is a failure, the loss is not very great.

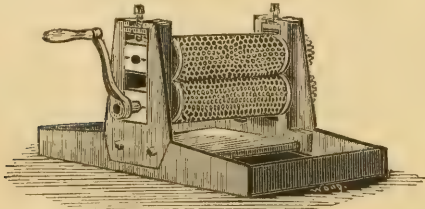
I am satisfied with the results of my experiment with Alsike clover, and, if it continues to do as well or nearly as well, with me as it did last season, I shall continue its culture as long as I continue bee culture, which will be, I think, as long as God gives me health and strength to take care of the "blessed bees."

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

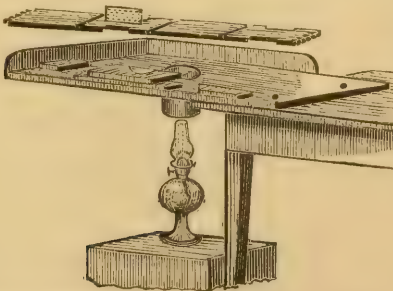
THE NEW \$15 FOUNDATION MACHINE.

BELOW is an engraving of the little machine we mentioned last month. The length of the rolls in this machine is $3\frac{1}{2}$ in., and it will roll sheets of wax a little more than 3 inches in width. With sheets of wax dipped very thin and even, which we do to the best advantage with a wooden wheel about 2 ft. in diameter, we have made fdn. so thin that 1 lb. will cover 12 square feet of surface.



FDN. MACHINE EXPRESSLY FOR MAKING STARTERS FOR HONEY-BOXES.

Thin fdn. like this can be made with almost any of the mills we have sold, by having very thin sheeted wax, and cutting it into 3 in. strips before passing it through the rolls, they, as a matter of course, being tightly screwed down. Now what is it worth to make a single pound of wax into fdn. that will cover 12 square feet? If we can buy wax for 25c., I have undertaken it, as you will see by the price list for 30c. After we have put paper between all the sheets, and made a box to ship it in, there is but a small margin left for profits. Well, a pound will go a great way, when made up so thin as this, and I guess we will have to learn to work close, in making fdn. for comb honey. We have not tried putting in full sized starters on the melted wax plan, but our girls put in small ones so rapidly and securely with it, that I have no doubt at all about its working with full sized starters, and I think I will give you a picture of the apparatus they use.



ARRANGEMENT FOR PUTTING STARTERS IN THE HONEY BOXES.

It consists, principally, of a half inch board, 12 in. by 18 in. One end is screwed to a bench or table, and near the other end is a tin cup, let in so as to be level with the top of the board. About $\frac{1}{2}$ in. below the upper edge of the cup is a bridge of tin. The cup is to contain clean, yellow wax, with about $\frac{1}{4}$ part of white resin. A lamp placed under the cup keeps the mixture melted, and,

by adding a little from time to time, the wax is to be kept just over the bridge of tin. The girls just touch the starter to this bridge, and place it instantly in the center of the top bar of the section, and it is a fixture. The resin makes the wax so tenacious that the box may be thrown on the floor, without shaking out or breaking the starter. We can furnish the cup and board when desired for 25c. If wanted by mail, 50c.

The starters may be put in after the boxes are made up, or before, as you choose; but our girls prefer to have them in the flat. Lay your pile of long strips right back of the cup, against the strip that is tacked on to keep them from falling off. Put your pile of fdn. starters near the strip across the end of the board. Now take a section, and place it against the stops, which are so arranged that the part which is to be the top bar will be right opposite, and close to, the cup. To bring the starter exactly in the center of the top bar, you will observe a strip with the middle cut out, to give room for the fingers, fastened so as to come a little above the section top bar; it should be high enough so the melted wax and resin will never get stuck to it. As soon as the starter is in place, with the right hand take the section away and put another in its place, while the left hand is getting a new starter and dipping it in the cup. You *must* make both hands work together. Don't say you can't, but keep trying; for, no matter how awkward it seems at first, they will soon learn how, and you will do just twice as much, as to let one hand remain idle the greater part of the time. Again, you must place your stuff so your hands will not have to travel a great distance each time you pick up a stick and lay it down again. Fix things handy, close by, but in good order, and work so systematically that you will be glad to have the neighbors come and look on, instead of being worried and fidgety because everything is so "cluttered up." Have your wax and resin so that no particle shall ever get on anything, except where it is wanted, and under no circumstances let it get on the floor. If you cannot do it in a nice and genteel way, get yourself off out of doors, and turn the whole job over to the women folks. I want you to be a happy and prosperous family, and I *don't* want your wife to say, "I wish you had never heard of Mr. Root and his bee journal."

The "Growlery."

[This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule we will omit names and addresses, to avoid being too personal.]

PLEASE find enclosed \$1. for GLEANINGS, one year. If I am not too late, send me that little plane. Will you please send me one of your metal corners.

H. S.

Brooklyn, Wis., Jan. 5, 1880.

It was away back in Oct., that we offered a plane for new subscribers for 1880, and so

I explained to friend S. Although he forfeited all right to any present by waiting until January before sending in his subscription, I thought best to give him the corners he asked for, and so sent him four, paying postage ourselves, and explaining why we could not consistently give him a plane. Here is his reply:

I received GLEANINGS, and sample of metal corners, with thanks for the same, but the plane did not come. I should have sent my subscription sooner, but I could not spare the money. Now, I do not think that you ought to be too small. I have tried to deal fairly with you, and if you can't afford to send the premium, you can send back the dollar. Retain enough to pay you for Jan. No. H. S.

Brooklyn, Wis., Jan. 10, 1880.

Of course, we had nothing else to do, but to send back the money. Now please, friends, do not censure our friend S. too severely. There is an element of truth in what he says. I offered you the presents, that you might hurry up with your subscriptions, and not oblige us to take down our types of your addresses after we had arranged and corrected them with so much labor. A great many of you would have been stringing along into Jan., Feb., and March, had we not, by the presents, induced you to be prompt and on hand, before New Year's day. The line had to be drawn somewhere, and so we put it at the first day of the year. Quite a number complained, because the clerks refused the presents when they were just a few days late. Suppose I let it go, if it was only a few days; when *should* I commence to draw the dividing line? Perhaps I offered too much of a present.

THE EARLY AMBER SUGAR CANE.

CANE SYRUP FOR BEES.

I DON'T know as I can give any useful information on this subject, but I will try. I was much pleased with the article written by Ira Bennett, in the last No. of GLEANINGS, although it seems he has had but one year's experience. The new sugar cane, called the Early Amber, is not a new cane. It has been raised in the state of Minnesota very extensively, and, by refining the syrup, it makes first class sugar. The cane has been raised in this part of the country for several years.

I will give you my experience in feeding cane syrup to bees. I placed a feeder full of syrup at the entrance of a hive; the bees came out in an instant, and stuck their bills into the syrup as if it were honey; pretty soon they backed out, wiped their bills, and seemed to say, "I guess I don't want any more." The only way in which I could get the bees to eat it was to leave the syrup thin, and feed it to them while warm.

I have never tried to feed the cane juice, but I have noticed for several years, that, at our mill where we manufacture cane syrup, bees would gather in great numbers to suck the juice left in the pomace. They would gather around there as soon as we commenced work in the fall, but it seemed as if they got tired of the stuff at the latter part of the season, and but few bees would visit the mill. I don't think that syrup or juice is good for feeding bees, at least not of the common varieties of cane (I never tried the early amber for feeding); but, if we can make the syrup into sugar, and then feed it to the bees, it would be a great deal cheaper than coffee A; that is, if it is as good as that.

We got some cane seed last spring, of a man in Southington, who said his syrup nearly all went to sugar. We intended to make sugar of ours, but it has not grained the least bit yet. This was also early amber cane

Cane is raised extensively in this section, mainly for syrup. We had two mills running last fall. The pressing and boiling are done by steam. We have made as high as 3,400 gal. of syrup at one mill, in one season. That season we charged 25c. per gal. for making. Last fall, good syrup sold for \$1. per gal. I think our way of making syrup is far superior to any other I ever heard of.

You must have good land out in Medina Co., if you can raise 300 gal. of syrup per acre. In Trumbull Co., we can't raise much more than 150 gal. per acre. I think Medina Co. would be a good place to erect a mill for the manufacture of syrup. What do you think, brother Root? I am satisfied we would have plenty of work the second season. H. A. SIMON.

Lordstown, Trumbull Co., Ohio, Jan., 1880.

Under no circumstances would I advise feeding the cane juice to the bees. I would rather have it made into nice sugar, say as good and white as coffee A, and then feed it. Our neighbor Bennett desires me to say that he has no more seed to spare, but I have made arrangements to supply all who may want the Early-Amber seed, at 5c. per packet, or 40c. per lb., by mail; by express, 22c. per lb. I should like to be able to send a small sample of the sugar with each packet of seed. Can any of the friends furnish nice, white sugar, made from the Early Amber cane? Mr. Bennett has purchased a mill. We can furnish a book, said to be the standard work on making sugar from the new sugar cane, for \$1.

CLARIFYING CANE SYRUP WITH CLAY.

A friend who lives in Illinois tells us his process of clarifying the juices of sugar cane. He grows the ordinary kinds, and perhaps your friend Bennett would be pleased to see it. Simply add to the expressed juice, as it comes from the mill, common yellow clay, an ordinary wooden pailful for a 40 bbl. vat or tank; thoroughly dissolve and mix, then let it stand until the clay settles, taking with it all impurities. Then draw off with a siphon or faucet, being careful to get *none* of the sediment, and the syrup will be perfectly clear, when evaporated, and almost colorless; and my friend claims that the flavor is finer than any honey they can buy.

Attica, Ind., Jan. 10, 1880.

MRS. S. C. EARL.

BEES AND SUGAR-CANE MILLS; ANOTHER SIDE TO THE QUESTION.

My bees (98 colonies) are very quiet thus far in their winter quarters (cellar), but they were very much reduced in numbers by a sorghum mill within $\frac{1}{2}$ mile of me. I tried to keep them at home by putting them in the cellar, and keeping them cool with ice, but had to take them out again, the weather was so very warm. I put screens on the door and windows of the mill, but the proprietor said it was so hot he could not stand it, so they stood wide open. It would have been but a partial remedy at best, since as many are killed at the rollers and on the bagasse, or crushed stalks, as in the mill. When that man that raised 3 gal. of syrup from one rod (all guessed at, I take it) comes to raise it by the acre, he will not be so enthusiastic, or you either for that matter. I speak from experience in this locality, which is well adapted to its culture, and we have the early amber variety too. I prophesy that sorghum or sugar making and bee-keeping always will be antagonistic.

J. L. WOLFENDEN.

Adams, Wis., Jan. 16, 1880.

Now, friend W., I am not discouraged, but I am very glad of your cautions. I would have the whole mill, rollers, refuse stalks, and all, covered with a building, and plenty of air admitted through large openings covered with wire cloth having a large mesh, that would just exclude bees. If this should be too expensive, I would manage in some way, to have the bees and the mill at least two miles (more if need be) from each other. Don't bring any mill near the bees, or any bees near the mill. Isn't the world wide enough? If not, let's "go west."

BEE BOTANY AND ENTOMOLOGY.

WATER LEAF AS A HONEY PLANT.

INCLOSED please find a specimen of a honey plant. It blooms early in spring, and is found in the valleys on very rich soil. I consider it A No. 1, as it comes before white clover. Please define it in GLEANINGS. M. A. GILL.
Viola, Richland Co., Wis., Dec. 13, 1879.

The plant is a beautiful one, both in leaf and flower. Here is the answer of Prof. Beal in regard to it.

This is *Hydrophyllum Virginicum*, or water leaf. There are several species found on rich land in the woods and open places. *Nemophila* belongs to the same small natural order.

THE TOCHINA FLY; IS IT AN ENEMY?

Friend Root:—Enclosed you will find some kind of a bee, which is hovering around my hives and eats honey like the bees. It has bristles on its body. Please tell me if they will do any harm, when they are plenty. D. F. C. HAMBLEY.

Spanish Ranch, Plumas Co., Cal., Nov. 20, '79.

We sent the fly to Prof. Cook, and here is his reply:

The insect is not a bee, but is a Tochina fly. It has two wings. A smaller fly of the same genus is figured on p. 270, of my Manual. These flies love sweets, and so are often seen around flowers. They are near relatives of our common house flies, but differ widely in their habits. These flies lay their eggs on other insects. The young, when they hatch, enter and feed on the insects which receive the eggs. Whether these insects were after honey, or were stealing in to lay their eggs on the larval bees is an important question. If the former, their damage is light; if the latter, then it is more formidable. True it is, that some of these Tochina flies are parasitic on bees. I wish Mr. H. would send me several carefully packed in cotton. I am desirous to get all the bee enemies I can for a monograph. A. J. COOK.
Dayton, Ohio, Jan. 5, 1880.

PURPLE THOROUGHWORT AS A LATE HONEY PLANT.

Will some of your readers tell me, if they have tried *Eupatorium purpureum* for bees? I have seen it covered with bees in the fall, when all other plants had been killed by the frost. The flowers are purple. They are small, but numerous, like elderberry blossoms. Perhaps Prof. Cook would give some information, as this is easily grown in any swamp or wet place. G. H. B. HOOPER.

Toronto, Ont., Can., Jan. 7, 1880.

BLUE THISTLE PLANTS.

I have no seed of blue thistle, but will send you plants by the thousand, if you will pay the express on them. J. L. BOWERS.

Berryville, Va., Jan. 10, 1880.

That is too cheap, friend B. We do not want anybody to work for nothing. If the plants are very plenty, perhaps you can take them up and put them in a little basket, for 25c. per hundred. I will pay you that for 100, and will pay for the basket too. If anybody else wants some, let them write you so, sending the 35c. I suppose a basket will cost you about a dime.

BLUE THISTLE IN MICHIGAN.

I see you speak about blue thistle seed. I think I can get a quantity next fall, if you wish. I am well acquainted with that kind of thistle. It commences to blossom the second year from seed, about the first of June, and produces honey in great abundance, till frost comes, and then dies, root and all. Sow the seed in the fall, and when it is once sown, there is no more trouble; there will always be plenty of it. It will scatter all over the neighborhood, and can't be beat for honey.

CLARK SIMPSON.

Flushing, Genesee Co., Mich., Jan. 19, 1880.

I was not before aware that the blue thistle was found north of Virginia and Tennessee.

see; but, if our friend has made no mistake, it will probably grow all over the north.

A VISIT FROM AN OLD FRIEND.

AND WHAT HE TALKED ABOUT.

COME to think about it, it was not exactly a visit after all, for he just wrote it in a letter; but he did once pay us a visit that I shall never forget, for he not only talked bees to us, but before he went away he talked a little, and in his letters afterward dropped a word now and then, on the eternal life that is to come. There is and always will be, friend M., a warm place in the hearts of our household, for you or any words from you. Well, here is the letter I was going to talk about, that comes in after the Jan. No., so like a visit:

BEES DRINKING AT THEIR HIVES.

You say you never saw bees drinking at their own hives. One evening, last fall, I heard quite a commotion at one of my hives, the same as they make when being fed. It was dusk, and, on looking close, I found a puddle of rain-water on the alighting board, and a row of bees crowded around it, the same as they would crowd around honey. What surprised me most was that it should create the same excitement as a like amount of honey would do.

It is a fact, friend M., that bees will sometimes take greedily great amounts of water. Since our last, I have been filling some thin sponges with water, and placing them with lumps of candy over the frames and under the chaff. The water was taken entirely every day, and the amount of candy consumed when the sponges were full of water was very greatly augmented. I do not know of any safer way in the world to feed, than to give candy and water in this way. I do not think I would resort to steady feeding, as a general thing, before the first of March. During these mild January days, we have fed until the young bees are hatching out in great numbers, but we do not know how soon zero weather may make mischief, or at least give us good cause to fear it.

BEES AND GRAPES.

I am reluctantly obliged to admit that my grape crop suffers from my bees. I have 1½ acres in grapes, and, last fall, the bees were very thick upon them. I should like to say that they only finished up those grapes which had been rendered worthless by the wasps, but scarcely a wasp was to be seen, and bushels of grapes were destroyed. There was no bursting of the grapes with wet weather; it was a very dry time, and each grape, when first attacked, had a small slot or hole 1-16 to 1-8 in. long, very different from the cleft in a bursted grape. Even if the grapes were first punctured by the wasps, the main damage was done by the bees, I think. I have seen a bee entirely hidden in the shell of a grape, having squeezed through a hole hardly large enough to admit it.

Now, friend M., I am not glad to hear that bees do eat grapes, but I am glad to see at least one man stand up and own up to his conviction that it is a fact. There are more of us who, in private conversation, have admitted that the bees did do the mischief, but

thought it best not to admit it in print, because it would "make such a breeze." Never mind the breeze. I would rather the bees should be blamed for more than they are guilty of, than that it should be said we are interested, and won't own it.

BEES BALLING THEIR OWN QUEEN.

From the different cases I have seen, I am satisfied that bees, at least sometimes, ball their own queen for the purpose of protecting her. In that case, the ball of bees is a very different thing from the hissing mass that envelops a stranger.

For a number of years, I have practiced introducing queens by simply introducing them; that is, when a queenless hive had started queen cells, I simply placed the queen, without caging, on a brood comb among the bees, and let her go about her business. For a long time, I noticed more or less dead bees on the ground in front of such hives, without knowing why, until I found, as nearly as I could make out, that there were two factions,—one determined to install the stranger as queen, the other (the minority) determined to "oust" her; and I think the less I meddled with them, the safer was the queen. It seemed that friendly bees balled her, and killed those that attacked her.

SPRING DWINDLING.

I have never been troubled with spring dwindling, and would be glad if I could know just why; for, if it is in any way due to my management, by continuing the same management I might hope for continued immunity. I have somewhat suspected that it was due to the fact that my bees have no winter flight, and remain undisturbed in winter quarters until the soft maples are in bloom. May it not be that they thus remain imprisoned till danger from dwindling is past? I would like to know whether, among those who have suffered from dwindling, there are any who do not let out their bees till soft maple blooms.

Yes, friend M.; we have had bad cases of spring dwindling in our neighborhood, when the bees were wintered in a cellar just as yours are. Our neighbor Blakeslee used to boast that he could keep his bees all right in the cellar all summer if need be; but, last winter, he lost badly of those in doors, while those left on the summer stands came out all right. Are we to understand, friend M., that you keep your bees in the cellar all through this warm January without trouble?

FOUNDATION IN SECTIONS.

Notwithstanding the vehement opposition of some, I have used fdn. largely in sections, and am not satisfied with any thing less than a piece that will nearly fill the section. I think I can manage to have quite thick fdn. thinned out by the bees, but I would rather have it with a thin base. Last year, I used 10 lbs. of thin, flat bottomed fdn. in sections, alternating them in the frames with sections containing the ordinary fdn., and could not see that the bees made any difference in working the two kinds. The price, however, of the flat bottomed appears to me a decided objection to it, and I am very anxious, as no doubt others are, to know about the new machine on which Mr. Washburn is at work. How many feet to the pound does the fdn. made by it average? and what is the price per pound? Please tell us all about it. Are you now ready to furnish such fdn.?

You like sections without grooves better when using starters an inch wide, but it seems to me I should hardly like them, when they are to be filled with fdn. Have you tried it?

I agree with you, friend M., that the best results are obtained with sheets that nearly fill the section, and that we want it with a thin base, in order to be on the safe side. The great bulk of the testimony seems, however, to indicate that more time is occupied in working out the flat bottomed fdn. than in working that having the natural form of the cells. (On another page will be found a description of the machine for making starters.)

WHITE DUTCH CLOVER.

Does any one know that there is any difference between white Dutch clover and the common white clover? or do seedsmen get both out of the same bag? I have a piece of white Dutch growing, and, so far, I can see no difference; but perhaps I can tell better when it comes into bloom.

Your white Dutch clover, if true to name, will give larger blossoms than the ordinary white clover, although it is almost the same thing in every other respect.

A SUGGESTION.

When one bee keeper meets another for the first time, conversation does not proceed far between them, before the question is asked, "How many stocks of bees have you?" When reading articles in the bee journals, one has the desire to ask the same question of each contributor. Very often a full understanding can only be had by knowing date of article, locality of writer, and number of stocks kept. If a writer says "I have taken 1000 lbs. of honey," it makes a difference in our estimation of his success, whether he took it from 10 hives or 50. Can not some way be devised, by which, without taking much room, we may know how many stocks each writer has? If there is no better way, how would it do to put the number of stocks kept, immediately after the signature? thus: John Smith, 2; Mary Brown, 40. Perhaps the number given should be the number owned on the first of May preceding. Two men might start on the first of May with 50 stocks each, and one increase to 100 strong stocks, and the other to 200 weaklings that will nearly all die in the winter; we can make a better estimate of them by knowing that each had 50 last May, than by knowing that they have 100 or 200 now.

Marengo, Ill.

C. C. MILLER.

Well, friend M., why do you not set us an example by telling us how many stocks you have, and then giving your date as well as address.

MY WAX EXTRACTOR. HOW I CAME TO INVENT IT.

MY usual way of rendering wax used to be, to borrow my wife's clothes boiler, fill it about half full of water, and heat the water on the stove to boiling; then immerse a sack of wax to be tried, or rendered, and stand over the stove, with a paddle in one hand, to keep the sack submerged and assist in pressing out the wax, and a ladle in the other, to dip the melted wax, as it rose to the surface, and pour it into a vessel to cool. The heat and steam from the boiling water would

make the sweat pour in streams, and these sweats always put me to thinking of an easier way. Not only that, but the untidy appearance of the boiler after I had used it always brought forth suggestions from my *better half*, to the effect that a clothes boiler was not just the proper thing to try out wax in.

Of this I became convinced one day, after an unusually trying time which left the boiler nicely "nickel plated" with beeswax. Wife said the boiler was totally ruined, and proposed that I keep it for the wax business, and get her a new one. I thought I saw a selfish motive in this; however, I procured the new boiler, and thus became sole proprietor of the old one. Upon this, I set my wits at work to improvise a wax extractor.

I turned to the cut of Novice's wax extractor, in his price list, and saw that it consisted of a perforated tin basket (to contain the scrap comb to be tried), set inside a bottomless can with a gutter around the inside to catch and conduct the melted wax, which has its exit by a spout at the lower side, these to be placed in a kettle, or steam generator, made for the purpose, and, this kettle being covered, it is ready to operate.

My object, then, was to make the boiler answer for steam generator and can combined. So I said, I will have the gutter run around the outside of the comb basket, instead of inside the can as in the cut. To give the gutter an inclination so that the wax will run out, one side of the basket is made longer, or lower, than the other, instead of straight as in an ordinary can. The gutter opens on the lower side, in form of a short spout. This basket is now ready to go inside the boiler. Stops, or rests, are soldered on the inside of the boiler, at the proper height to leave sufficient space for water beneath, and to correspond with the bottom of the comb basket. A hole, of convenient size, is cut through the side of the boiler, and a spout inclining sharply downward is inserted and soldered with the lower side extending through on the inside, to receive the short spout of the comb basket. Now, it is ready to operate. Put water in the boiler nearly up to the spout; set the comb basket inside, filled with comb scraps; put the cover on, and set the whole on the stove; and you have only to watch the wax pour out, in a beautiful, yellow stream, wishing it would never grow less.

Now isn't this a pretty good extemporaneous invention? I have used it to try out nearly 200 lbs. of wax, and I find it just the thing; and, if it were the first invention of the kind, I would, no doubt, think it useless to try to improve it.

Perhaps it would sound conceited for me to say, I think it the simplest and best way to make a wax extractor, so I will not say it; and will only add, if I were to make one anew, I would make it on this plan.

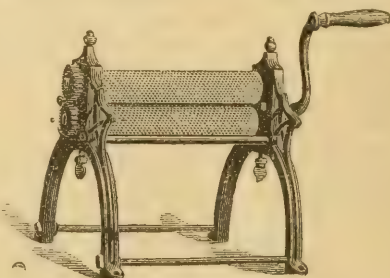
H. R. BOARDMAN.

East Townsend, Huron Co., O., Jan. 1880.

FOUNDATION MILLS CHEAPER.

I AM glad to see prices made lower, on any thing the friends need in the apiary, and I hope I am glad even if somebody else should be able to undersell me. Our friend Bourgmeyer has advertised a 12 inch mill for \$35.00, and a 9 inch for \$25.00. These prices, it will be observed, are \$3.00 less on each mill than our own prices. I have obtained samples of the work, and, although it

is not as nice as that made on our mills, it may answer just as well for the bees. The bottoms of the cells are much nearer flat than in our fdn., but that may be no detriment. It would require careful experiments to determine the matter. We give a cut of friend B.'s mill below.



BOURGMAYER'S FOUNDATION MILL.

The thinnest fdn. sent us was 8 square feet to the pound, for strips only 2½ inches wide. Our friends who have used mills probably know that it is a far easier matter to get thin fdn. with narrow strips, than it is to get thin sheets a foot wide or less. The reason is that the rolls spring under the enormous pressure required, and this leaves our sheets thick in the center, and thin at the edges. That we may make large sheets, and have them thin, and even in thickness, we make our mills, even the cheap ones, with a shaft of steel, and have the diameter of the rolls, in none of them, less than 2½ in. But what hurt does it do for brood combs, if the sheet is a little thicker in the center, some may ask? I do not know that it does any particular harm, only it puts valuable wax where it is of no use, and, with a large number of hives, it mounts up rapidly to a considerable expense. With a nice mill, and firm, rigid rolls, we should be able to make every pound of wax cover 8 square feet for brood combs, and 12 or more square feet for starters. The saving in wax would soon pay for a mill. I know very well, that enough attention has not been paid to this matter, and the dipping of sheets of a uniform and even thickness is one very important part of it. The following is from friend B., in regard to his mills.

The rolls are 2 inches, less a fraction, in diameter, with brass covers on the ends. They are made of a substantial composition hardened tough, they being the principal part of the machine. They are shaped as near the natural comb as possible. A trial of three years proves the durability of them, and I think generations can not wear them out, if not purposely damaged. A substantial cast iron frame, ¾ of an inch thick, and 12 inches high is the bearer of the rollers, and holds them firmly in position. The cog wheels which revolve the rollers are of brass. The bottom roller is movable, and, with the two screws beneath it, I can make fdn. thick or thin in an instant. My machine has no top piece; the upper roller is free from one side to the other, which is of great advantage to the manipulators. Beneath the bottom roller, a pan is placed, which is filled with water for moistening the roller to prevent the wax from sticking to the same. At the right of the top of the lower roller a table (pan and table are

taken off in the cut, to show both rollers) aids to lay in the sheets conveniently.

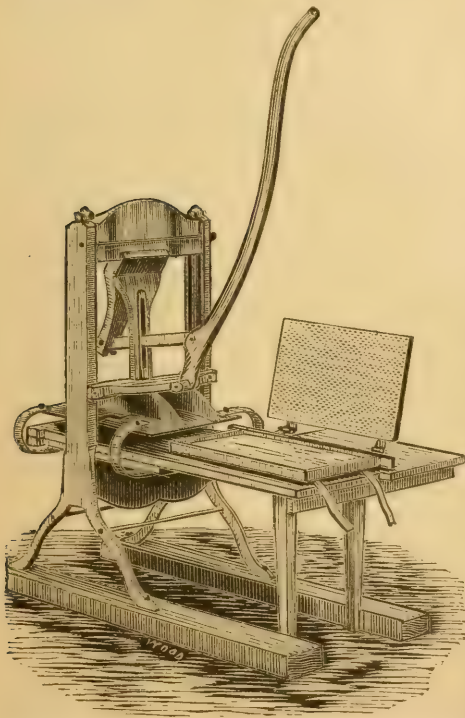
I would punch the rollers deeper to make higher side walls, but the metal is so hard that I fear the cells will break off. There is plenty of wax in the walls to be drawn out, and the rollers are more durable.

JOHN BOURGMEYER.

Fond du Lac, Wis., Jan. 17, 1880.

GIVEN'S MACHINE FOR MAKING FDN. IN WIRED FRAMES.

THIS machine was mentioned several times last summer, and our friend has at length made a practical success of it, as I should judge from the photo sent us, and the samples of his wired fdn. The machine shown below was engraved from the photograph.



PRESS FOR MAKING FDN. RIGHT IN THE
FRAMES.

Our readers will readily understand it, almost without explanation. In the foreground, you see an ordinary brood frame (with wires woven across it in the usual way), placed over a copper die, having the usual stamp of the cells and walls. A second die is shown, hinged to the first like the cover of a book. Well, after the wired frame is laid over the die, a sheet of plain wax, large enough to fill the frame, is laid on the wires. The second die is now turned down on the wax, and the whole is pushed along a track, right under the platen of the powerful press shown. On bringing down the handle of the press, the sheet of wax is made into fdn., and, of course, the wires are right in the center of the wax. The press seems to be a

very ingenious piece of work, especially those four steel springs that raise the platen. As this machine dispenses with rolls entirely, it is doubtless a great invention, with but one drawback. The drawback is that the wax in the dipped sheet must all go into the frame of comb. Now, if friend Given can give us frames full of fdn., with good walls, that will not take over a pound of wax to 6 square feet, I shall order a machine of him at once, and discard rolls for making brood combs at least. I do not know how this machine will work for fdn. for comb honey, but it does not seem possible that it can make fdn. as thin as the rolls do. I ordered one of the machines last summer, but when Mr. Harrison came out with his dipping machine, I countermanded it. I still prefer the dipping machine, if it can be made to work; but, if not, then this, if it will use wax with as much economy as the rolls; if not, then the rolls, and the plan I have given in our price list, which I know is a success, and can be worked successfully, so as to require not over a pound of wax for 8 square feet. Here is what our friend says of his machine and invention:

The press is all my own invention. If there is another such thing in existence, I have never seen or heard of it. I made all the patterns, and figured all the iron. Although it is figured to stand 100,000 lbs. of pressure for an L. frame, I do not think it takes over 40,000 lbs., or 300 lbs. to the inch. Many laugh at me when I tell them so much pressure is required; but let them place 300 lbs. on a square inch, and they will see that it will be required.

I have spent 20 times more work on the dies than I did on the press. I now make them of copper; after using one made from type metal last summer, I found the wires would mark it; so I have changed to copper, and now make them with the raised lines. I made several sets of patterns before I got them to suit me. I had a great deal of trouble to get the lines so that the fdn. would lift from the dies nice and clean.

I should have had these presses all completed last summer, but I was taken down with the typhoid fever and was not able to do anything most of the summer. Since every thing has raised so much, and I have to make the dies of copper, I can't see as I can manufacture these presses for less than \$40, for frames 10x18 or 12x12 inside; larger sizes will be more; for the Langstroth frame, I will make them for \$38.00; as there are so many of that size frames, I can make them for less.

D. S. GIVEN.

Hoopeston, Ill., Jan. 17, 1880.

G. W. DEMAREE, Christiansburgh, Ky., writes that he made sections on Mr. Gray's plan last spring, but that he discarded them, because too many of them broke; from which I infer that he did not have a suitable saw for making the groove, for ours very rarely break in folding up, and never after they are put up. The wonderful rapidity with which they can be put up, compared with the old style, amply compensates for nailing a corner once in a great while. The saws which we use for cutting the groove are made with two cross-cut teeth and then one rip tooth, and so on clear around. Such saws, made of the right thickness, will cost $\frac{1}{2}$ more than ordinary saws. Those we use are 5 inch, and we can furnish them for \$1.50; if filed and set, \$1.75 each; and, if wanted by mail, add 10c. for postage.

OUR OWN APIARY.

I TOLD you, in the last December No., about the three lots of imported queens that I did not expect, and that we had 225 colonies, and many of them weak. I expected to sell off a lot of queens to supply those who were always wanting one, just the last thing; and we did sell quite a number, but so many of our customers wanted a pound of bees with the queen, that we were little, if any, better off after all. Every colony was put into a chaff hive, even though it was weak, and the best I could do to save those imported queens that came so inopportunely was to hope that the winter would be mild, like the winter before last. Well, we have been selling queens right along all through December, and are selling them to-day, Jan. 8th; in fact, I should like to have an order for a full hundred this minute. We could then make 200 weak colonies into 100 pretty fair ones. However, I shall have to do the best I can, for aught I see, and develop my skill in nursing through weak swarms, whether I do or do not wish to do so. A few days ago, Will pointed to a queen he was just putting up in one of Miss Andrews' cages, shown on page 209, last year's GLEANINGS, with the remark,

"There is a whole swarm of bees in that box."

"A whole swarm? What do you mean?"

"I mean that when I took the queen out of the hive, there were so few bees left I put them all into the cage; and, although the man paid only for the queen, he has got the swarm with her."

"Why, have we colonies with imported queens so weak as that?"

"It seems we had one such."

"And those few bees stood it safely in a chaff hive, with a temperature 2° below zero?"

"It was six below zero at our house."

"Well, I declare! That is more than I ever expected a chaff hive to do."

After it got warmer, we went over the whole apiary and found five colonies dead. One contained an imported queen. A careful examination showed that, even with so few bees, those that died were not in the best trim they might have been. The first found dead was in a chaff hive which I bought, and was not nearly as good a protection as our own. The second was in one of our chaff hives, but, by some means, no winter passages were made in those combs. The hive had been missed when the rest were done. The bees had got away from their stores, and starved, with food at the other side of the hive. This was all of the losses in the chaff hives. The other 3 were in the house apiary, not well protected with cushions, and not amply supplied with stores. They were all overhauled thoroughly, more cushions given them, and all cracks and crevices well closed up. Out-doors, in the chaff hives, in spite of all the care with which we had put the cushions in, I found, now and then, a bee or more up under the cover. They would get a glimpse of light around some corner, and then make their way up through. Now, we do not want to

lose a single bee in this way, and after seeing how difficult it is to be sure that these cushions are bee-tight, I directed some baskets of chaff to be brought. The cushions were removed, and loose chaff filled in behind all division-boards where there was any empty space, and then a thin covering of chaff was put over the mat, especially in the corners, or wherever a bee was seen peeping out. The cushion was then put back, and we could see the difference at once by the bees standing around the entrances and looking out, because their hives were made so warm inside.

Jan. 8th.—We have now had 9 days of warm rain, and scarcely a trace of frost or ice during this whole time. Of course, the queens are laying, and the bees as well as vegetation seem to be starting forward as if it were spring. It is these warm spells in the midst of our winters in this latitude that has induced me to strongly favor wintering on the summer stands.

Jan. 23d.—The weather is still mild, and, strange as it may seem, we have had over three weeks right in the middle of January, without a freeze sufficient to make ice $\frac{1}{2}$ inch thick; in fact, there has been almost no freezing weather at all. The grass is green and growing; dandelions are in bloom, and bees are working on them. Of course, we have lost no more bees, for any one who could not keep bees this winter must be careless indeed. The bees use the grape-sugar candy made with honey, instead of coffee sugar, with a marked preference, and where you have honey that is old and candied, that will not bring more per pound than A coffee sugar, I should, by all means, use it. Almost every colony has hatching brood, and it is no task at all to raise brood with this cheap candy. The editor of the *Western Honey Bee* gives his experience with it down in Missouri, as follows:

We printed friend Root's plan of making grape-sugar-candy bricks, and we here recommend them for feeding bees, either with or without honey; we have one stand that has not had an ounce of honey since the first of October, the time we received GLEANINGS, and have given them nothing but the grape sugar as directed in our November number. The colony has plenty of brood now in the hive, and we believe it is actually better than honey to winter bees on. We believed it so strongly that we are feeding it to sixty colonies of bees, and they all have more or less brood.

We made two hundred pounds of grape sugar into candy bricks, and the bees fairly danced when they saw it; why, we tell you, our bees, in pleasant days, come up to the sunny side of our house when we have a brick lying on a board for their amusement, and they will carry in about five pounds of this hard brick each pleasant day. We will repeat that we recommend it as the best feed for bees, not only in cheapness, but because, in reality, it is better to feed than honey.

It is quite probable that the candy answers better for a winter like this than it would during one with long spells of zero temperature; still, with proper protection, I think it will prove a safe food, for any winter.

GALLUP'S IDEAS ON BEE-CULTURE IN CALIFORNIA.

IDEAS THAT ARE EXCELLENT FOR ANY PART OF THE WORLD.

EDITOR GLEANINGS:—I was at the Los Angeles Co. fair, but as this season has been a failure in the bee business, I saw little of interest in the bee line, except a stone bee hive manufactured, as I understood, at San Bernardino, but could find no owner, and therefore could gain no information.

From 50 to 75 per cent of the bees will perish, or have already perished, in many localities in Southern California; still the loss of some bee-keepers is but trifling. When a good stock of bees will produce from 300 to 400 lb. of honey in a good season, it appears to me to be rather poor policy, to allow them to starve for the want of a little of that honey in a poor season. Bees that were kept in ten-frame, L. hives, with supers, and the honey only extracted from the supers, are now in good condition, as far as I have examined. A stock of bees that has just managed to starve through, with a pint or even a quart of bees, and no stores to fall back on, in my estimation, are in a sorry condition to commence a good season, in comparison with a strong stock with abundance of stores. The "penny-wise and pound-foolish" plan of managing bees in California may be profitable to some people, but it is not my plan; neither is it a plan that I could recommend to others. In fact, Mr. Editor, I am fairly and firmly disgusted with it.

Bees in this section are now gathering stores from willow blossoms; still the surplus stored here in the valley is of very poor quality, and not fit for market. Thousands of stocks were moved down into the valleys, and if the season proves to be a good one, they will be moved back into the mountains in the spring. We have had early rains, and, if we have them often enough, the season will be early. Peaches, apricots, etc., will be blossoming about Christmas, and the Alfileria will bloom quite early or many more stocks would perish. The sages are commencing an early growth. Things in general look brighter for bee-keepers that have their bees in fair condition. Good stocks are gathering pollen and commencing to breed in Ventura Co., near Santa Paula and farther down in the Santa Clara valley. Of course, the season is still farther forward here, near Santa Ana. I was offered 70 stocks in good condition, in two-story, L. hives, with double set of combs, in Ventura Co., last week, at \$3.00 per stock. So you see that if a man wants to bring bees from the Southern States here, it would simply be almost, if not altogether, foolish, to say the least. In fact, a man with cash, by watching his opportunity, can purchase at almost his own price.

The Italians have again proved their superiority over the blacks, and the purer the Italians, the greater their superiority. It is your poor seasons that fairly test the qualities of the two species or races. The blacks have starved to death long ago, in apiaries where the Italians, right by their side, have made a good living; and then the little black rascals were up every morning, trying to rob their neighbors or steal something, while the Italians were making an honest living. Comparatively few apiaries that I have visited are Italianized. The most of the bee-keepers think it of little importance.

Now, Mr. Editor, I do not say that the black bees are all dead, by any means; for I know of some apiaries that were properly managed, where they are in good condition.

E. GALLUP.

Santa Ana, Los Angeles Co., Cal., Dec. 12, 1879.

DO BEES EAT GRAPES?

HAVING been a grape-grower and bee-keeper for 20 years, and now having charge of 33 acres of grapes and keeping from 25 to 40 hives of bees, it is quite natural that I should take an interest in the discussion of the question, "Do bees eat grapes?"

My father planted one of the first vineyards in Kentucky, and he was also quite a bee-man for those days, having invented a number of contrivances to check the ravages of the moth, which, at that time, threatened the destruction of all the bees in that state. When our first crop of grapes was ripe, I well remember his coming to me, when I was but a boy, and saying that we would have to give up our bees, as they were destroying the grapes. But, being reluctant to part with them, he did not bristle them without investigating the matter, and this investigation led to the conclusion that the bees only fed upon the grapes that had been punctured, and he discovered a small bird doing that mischief. Our bees and grapes were both saved.

We have been troubled here by having our early grapes, especially the Hartfords and Delawares, punctured, and the juice sucked out. It seemed to be done at night or early in the morning, and it was very hard to find out what was doing the mischief. Bees would sometimes be seen on them, but not in sufficient numbers to do so much damage.

One of my neighbors determined to find out what it was, as they had not left him a perfect bunch of Hartford grapes. By careful watching, he discovered the depredators to be the beautiful Baltimore orioles, which were passing here in large flocks. In a day or two, he killed 40 or 50 of them, and saved the remainder of his grapes. Had there been many bees in his neighborhood, no doubt they would have been accused of destroying the grapes.

My bees frequent the grape boxes where we are gathering, sucking at the bruised grapes, and I lose many bees by their getting mashed, and by their remaining out so late that they get chilled and unable to get home, but I am satisfied that we never lose a single sound grape by the bees.

In regard to the instance mentioned of Concord grapes: I have known nearly every Concord on a vine to be cracked open, or to be loose at the stem. Especially is this the case when a rain follows a dry spell, while the grapes are ripening. It is true, that while these cracked grapes may not do to ship, they are worth something for wine or for family use.

THADDEUS SMITH.

Pelee Island, Ont., Ca., Dec. 17, 1879.

It may be that you are correct, friend S., and that our Concord were either cracked or punctured by the birds; but the question now arises, do people generally consider their cracked grapes of so little value, that they are willing to put up with the ravages of the bees? I hope such may be the case, and that we may have light damages to pay when the season is such that the bees work on the grapes.

The "Smilery."

This department was suggested by one of the clerks, as an opposition to the "Growlery." I think I shall venture to give names in full here.

ENOUGH TO MAKE ANYBODY "SMILE."

FRIEND ROOT:—As I have been through Blast-ed Hopes, I will now have to go through the Smilery also; for the man I bought 39 swarms of last fall has given me 10 swarms. Who would not smile when they find friends so kind? Should we withhold his name from print? It was W. A. House, of Payetteville, N. Y. EDWARD ESTEY, Clarence, Shelby Co., Mo., Nov. 29, 1879.

It certainly was a very kind act of friend H. to thus remember a customer of his who had been unfortunate, and perhaps it might be well for us to help bear the losses of those who have been unfortunate with what they have purchased of us. At the same time, such liberality, if carried to too great an extreme, may make a precedent that would give some a reason for thinking that they have a right to claim damages, simply because they have been unfortunate with their purchases.

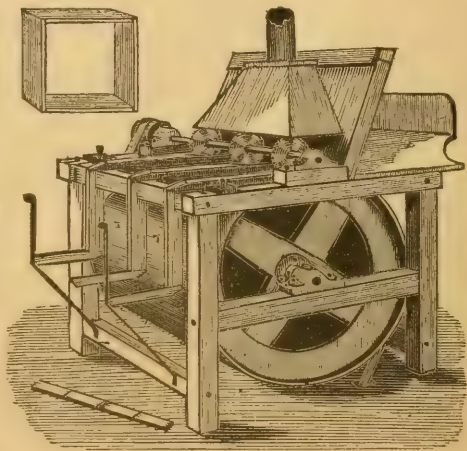
GRAY'S NEW SECTION BOX AND THE MACHINE FOR MAKING IT.

ALSO SOME NEW IDEAS IN MAKING WOOD-EN BOXES.

HOW often do we exclaim, on seeing some new device or implement, "Why, is it possible that no one ever thought of that before?" That was what I thought when Mr. Gray showed me his new joint for sections and other boxes, illustrated on page 472, Dec. No. You will at once notice that the principal expense in making this joint is the labor involved in pushing the piece over the saw to make each one of these cross cuts.

I said at once, that we must have a long mandrel, with three saws on it, that the whole number of cuts may be made at one operation. Again; the piece must be pushed toward the saw exactly at right angles with it, or the box will be askew, as it were. To push it accurately, a slide with a cross bar, like the "figure 4" I have illustrated in the back Nos., must be used. Now, every time this cross bar is pushed forward, it must be pulled back ready to take another piece, although the section need not be pulled back at all. Years ago, I thought of an endless belt with strips across it, for feeding stuff up squarely to circular saws, but just now, it occurred to me that a large drum, with pins set in it, might answer the same purpose, and need not be very expensive. My idea was to have the strips lay directly on the drum, as they passed under the saws; but Mr. Gray and Mr. Washburn thought it best to have the drum simply push the strips along, and let them slide on iron tracks, with steel springs to hold them firmly down in place. After they got so far, I told them I wanted it made so it would take a tall pile of the strips, and pick out the bottom one, letting the pile drop down each time, so as to have an automatic machine that would

"work for nothing, board itself, and not require any mental or moral discipline;" in short, a machine that would not have to be looked after nights, to see that it was not visiting groceries and learning to swear, smoke, chew, etc., after working hours. Come to think of it, I did not add these latter items when I ordered the machine made, but I will put them in now, so the machine will understand what is expected of it. It is now buzzing away while I write, and by timing the "zip, zip, zip," by the watch, I find it makes just 30 sections a minute,—handsomer white-basswood sections than I ever saw before in my life. Here is the machine:



MACHINE FOR MAKING THE NEW ALL-IN-ONE-PIECE SECTION BOXES.

You observe the long mandrel with its three saws, and the funnel shaped hood just over them. This hood is attached, by a pipe which you see at its top, to our blower, or exhaust fan, which takes all the sawdust right out of the way, that the machine may not get clogged, and that the troublesome dust from the basswood may not render the air in the room unwholesome and disagreeable to the workmen. All of our saw tables and planers are now arranged so as to have the dust and shavings all carried, automatically, right down into a brick room just before the boiler. The large drum that pushes the sticks through the machine explains itself, in the drawing. Right back of the dust hood is the box that holds the pile of sticks, or slats, and the iron arms shown right in front catch the pieces as they come out from under the saws.

To get out stuff for these sections, you want the best, white, clear, basswood. Have the logs sawed into plank 2½ in. thick. After the plank have been stuck up and seasoned, they are to be dressed on both sides, until they are just 1½ in. We choose this thickness, because 7 frames of them, with the separators on, just fill a Simplicity hive, and leave ¼ in. for wedging up. After the plank is dressed, it is cut up into bolts just 16½ in. long. With a cutter head to cut ¾ in., wide cuts are now made in these bolts of plank, at the proper places to make the top and

bottom pieces narrower, so as to let the bees pass through. These cuts are about $\frac{1}{4}$ in. deep. If you want closed top sections, only one cut is made instead of two. The end of each bolt is now dovetailed with the gang of saws, precisely as in the old way, except that one end of the plank is made so as to match with the other end, that the section, when rolled up, may exactly come together. This being done, the bolts are ready to be ripped into strips. The thickness is to be such that, when planed on one side, they are a plump eighth of an inch. They are now ready for the machine as described above.

HOW TO FOLD THE SECTION UP.

This is a very simple matter when you once know how, but without having it explained, you might bother with it a long while, and then not get a decent section. In the first place, the machine makes it so that the top and bottom are to come *between* the two sides. Lay the piece flat on the table, with the rough side up; take hold of either one of the sides, or the pieces that are to be sides when they are folded up, press the end hard against the table and, at the same time, raise it so as to make the thin wood bend close up to the end of the stick. Do the same with the other side, and you will have the two dovetailed ends just ready to be driven together with a light mallet. This corner is a remarkably strong and beautiful one, as you will see from the samples we send out, and it is adapted not only to honey sections, but also to a vast variety of other purposes.

If folded together in glue, it is like the solid wood; and, if you will give me your attention for a little while, I will tell you how to make all kinds of boxes of wood, on a few modifications of this plan.

Suppose, when we are setting the saw to rip off the strips from the bolts of plank, we should put another saw on the same arbor, tight up against the usual one; but suppose this second saw to be so much smaller that it just reaches $\frac{1}{4}$ in. above the table-top when the large saw goes through the plank. This small saw would cut, in the plank, a narrow rabbet, and, when the strip is ripped off, the rabbet is in the strip. Well, when the box is finished and folded up, the rabbet is there still, clear around the inside, and it is exactly what you want for a shoulder for a thin bottom to rest on, if cut just right to drop into it. Drop it in with some glue on the edges, and you have a strong, solid bottom, halved in.

It has taken no extra motions or labor to make this rabbet, for that small saw did it of itself. How shall we manage to get a rabbet to drop the cover in, in the same way, and still have no extra motions to get it? Put a similar saw on the opposite side of the large saw, and turn the bolt end for end, each time you saw a piece off. This comes pretty near it, but it would leave the rabbet for the cover around the *outside* of the box. Now just hold your breath right where you are, and I will tell you what to do. Set the saw on the back side, a little away from the large saw, by a collar, and then you will have a rabbet on the inside, around both top and bottom. In putting the box together,

use glue for the bottom, but none for the cover, only to glue a strip of cloth along one side, to answer as a hinge. Instead of a cover of wood you can use one of glass, and then you can tell what is in the box, without being obliged to open it. And this reminds me of—

HOW TO MAKE SECTIONS TO BE GLASSED.

Make them closed tops or not as you choose, but run the rabbet around as above. In first thinking of this, I objected, because the bees would fill the rabbet with propolis. After further study, I thought of warming the glass in an oven, so that it would melt the propolis enough to be securely cemented into place, when pressed in with a clean cloth. This would make a package almost as tight as a glass bottle, and the glass could certainly be put in more rapidly than where we have tin points to drive in and bend over.

Aside from boxes for sending goods by mail and express, it seems to me that this machine may profitably be used to make boxes for berries, and small fruits, and make them as cheap or cheaper, and stronger than anything yet in the market.

GOOD NEWS! GOOD NEWS FOR ALL!

PROF. COOK HAS SUCCEEDED, AND QUEENS CAN ONCE MORE GO BY MAIL.

If you will turn to page 496, Dec. No., you will see that we sent a cage to friend Cook, having a screen of perforated tin over the ordinary one of wire cloth. I confess that we had tried so many times, and orders had been so short and positive (see page 312 of Aug. No., 1879), that I had little faith when I made and sent the cage. It seems, however, that even the postal officials have hearts, and that our friend Cook was just the right man in the right place. Read:

I have just learned that the Post-Office Department has acceded to our request. We can now mail queens and foundation. The sugar in the cage, instead of honey, and the double gauze, helped very much. This is certainly a great gain. Our thanks are due to Hon. Edwin Willis, Representative from Michigan, who gave me great assistance.

A. J. COOK.

Columbus, O., Jan. 14, 1880.

May God bless both you and friend Willets, and may the bee-keepers of our land all remember long the service you have done us. We shall probably soon have instructions from head quarters in regard to the conditions to be observed in putting them up for mail, and now, friends, let us all be careful to observe a strict compliance with those instructions, that there may be no more necessity for ruling queens out of the mail bags.

GRAPE SUGAR CANDY.

This is Jan. 2d, 1880, and the bees are flying thick. I tried the grape-sugar, and think it is a grand success. I made the candy as you directed in Oct. No., and put it on 4 weak colonies, and they are all right now but one. I think I got the sugar on too late for this swarm, but they had nothing in the combs at all. I think the people that talk so much about grape sugar want something to talk about, and that is all.

JOHN C. STEIN.

Piqua, O., Jan. 2, 1880.

AN A B C SCHOLAR'S REPORT.

HIS "UPS AND DOWNS."

I HAVE received more than ten times the price of GLEANINGS in instructions and hints, and have made more money in the bee business than I ever did before for the same amount of investment; therefore any person who keeps five stocks of bees should not be without GLEANINGS, or some other journal on bee-culture. I have kept bees, off and on (more "off" than "on"), for the last 25 years.

HOW TO UTILIZE PATENT HIVES.

I paid my initiation by purchasing a ten-dollar patent bee-hive, which makes a capital hen's-nest, as the door in the back side can be shut, when you want a hen to sit, and keep other hens out.

FROM BLASTED HOPES TO SMILERY.

First, I was in Blasted Hopes; but, by perseverance and hard work, I am now in Smilery department.

PROTECTING WITH CORN FODDER.

Three years ago this fall I bought 8 stocks of bees, for which I paid \$42, and placed them in the yard, where I already had 6 stocks, some in box hives and some in my patent hive, making 14 stocks, all heavy. I placed some corn-stalks around them, and, as I thought, they were just in splendid quarters; but when the first of May came, I had only 3 stocks, — two of those that I bought, and one of my old stocks. I was not going to give it up, however, as I had the hives and plenty of combs and honey. I increased, by artificial and natural swarming, to 12; but the next winter I put 4 into a dry room of a cheese factory, and I lost 3 of them, reducing my stock to 9. Here GLEANINGS helped me out.

CHAFF PACKING DOES BETTER.

The next winter, I packed them all in boxes about 3 inches larger than the hive, putting wheat chaff on all sides and top, which made them warm and dry. While my neighbors lost from 75 to 100 per cent, I, having increased from 9 to 17, lost only one; and, while the loss was severe all over the country, I had no complaints to make. Now, the cause of the loss was the long-continued and severe cold weather; the bees were compelled to consume so much to keep up the animal heat that they became unhealthy and died. Those that wintered dwindled in the spring, and those that barely lived were like a cow that is wintered at the hay-stack, with the fence for a shelter, which comes out poor in flesh in the spring, and it takes her all summer to get into wintering condition, and she gives but little milk; so with the bees. I have now in the yard, from my 17 stocks, just 41, and all in good condition, well protected from the cold.

My bees were all blacks. Of course, I must have Italians. So, one year ago last November, I bought 2 stocks, but they were very weak. They have given me no increase, but, late in the fall, I raised two queens. I sent to friend Hutchinson for a dollar queen, but the bees killed her in less than a "York minute." I had two stocks that were queenless, and had two swarms given me by a box-hive man, so I put them together and all went well; but the queen did not lay many eggs.

INTRODUCING WITHOUT CEREMONIES.

One of my queens which I had reared, I had no use for; so, rather than kill her, I just raised up the honey-board of the hive containing the bees from the box-hive man, and down she went. Of course, I

expected she would be killed, and thought no more about it; but in about four weeks I saw some yellow bees; I examined them, and, sure enough, there she was, and her bees were hatching out lively.

WHY DO BEES LEAVE FOR THE WOODS?

I think, if a man will be with his bees as much as a shepherd is with his sheep, they will learn to love him as well; but, if he never looks after them or supplies their wants, they will sting him as often as he comes around.

TWO SWARMS SEPARATING THEMSELVES.

One incident I must mention. On the 25th of June a very large swarm came out, and I hived them all right. The 26th, another very large swarm came out (both first swarms), and, just as they were being put into a hive, the swarm hived the day before came out, and all went into the hive together. Of course, I expected they would all leave for the woods the next move they made; but the next day they came out and separated, and alighted about 4 feet apart. I hived them in two hives, and they have done finely.

LETTING BEES STARVE AFTER THEY HAVE GIVEN A CROP OF HONEY.

I feel like scolding such bee-keepers as W. C. Hutchinson, of Acton, Marion Co., Ind. He says the bees are starving, but he has increased from 14 to 20 and taken from them \$20 lb. of honey. If the crop was short, why did you rob them so? You should not have taken one pound if they did not have it to spare. I think but very little of such statements as that.

Now, friend Root, I have given you my luck, and I am bound to make it a success; but I mean to go slowly, and do not expect large returns. I mean to be contented with a fair increase and little honey. My 17 stocks and their increase have made me about 600 lb. of honey in sections; not a very large amount, but my bees are strong in numbers, and very heavy.

D. C. GILLIS.

Morenci, Lenawee Co., Mich., Dec. 20, 1879.

WINTER COVERING UNDER THE CUSHIONS.

ALSO SOMETHING ABOUT ENAMELED SHEETS.

I NOTE, with interest, your dialogue about winter coverings. It is an accepted theory, by nearly all bee-keepers, that it is essential for a proper winter covering, that it should retain the warmth and, at the same time, allow the moisture arising from the bees to pass off without being condensed and frozen in the hive; hence woolen cloths and other warm, porous substances have been used with great success, thus verifying the theory by practice. In view of this, I have been very much surprised at your persistent recommendation of enameled cloth under your chaff cushions. Is it true, that we all have been lead astray by a theory which is useless in practice, and that all that is necessary is to place something on top of the brood frames, whether it be enameled cloth or a thin board, to keep in the warmth? Such would seem to be the conclusion from your recommendation of enameled cloth. But why do you now make your cushions of very open cloth and very light chaff to be put upon an air tight covering of enameled cloth? Can the moisture pass through this enameled cloth and then through the cushions?

To prevent a seeming inconsistency, as well as the

danger of teaching an error which may prove to be the destruction of many a colony, would it not be better to cease recommending this enameled cloth?

I am aware that a very strong colony, kept so warm that moisture will not condense and freeze within the hive, with proper ventilation below, will not require any ventilation above, and may be sealed up air tight above, as bees always do when left to follow their instincts. But how many colonies, as we generally find them, will answer to these conditions? How many in your own apiary will do it? Some *open* substance to go next to the bees, which they can not cut to pieces, can surely be found. I think that your woven mats will answer the purpose. I use a Chinese matting which comes around tea chests and it answers the purpose very well.

I am experimenting with a new cushion which, I think you will admit, will beat the chaff in keeping in the heat. Having a number of sheep skins hanging in the barn, I thought they might be made useful in keeping my bees warm. So I cut them to the size to fit my hives, and put on the matting and then the sheep skin with the wool side down. All small pieces made in cutting were used by laying them on close together, the wool at the edges filling up the cracks. There! don't you think that will keep them warm? It may be liable to the same objection as the enameled cloth; it may not let the moisture pass off, or absorb it all sufficiently.

THADDEUS SMITH.

Pelce Island, Lake Erie, Canada., Dec. 15, 1879.

Thanks, friend S.; but is it not you who are mistaken? We are trying this winter, as we have many winters before, the mats, enameled cloth, burlap, and duck; but the enameled cloth seems to please us best of all. I should be glad if the mats answered as well, because they are so much cheaper. With a heavy, close chaff cushion over the enameled cloth, we do not find that it causes dampness, with any ordinary colony. Is not the explanation in A B C reasonable?

HOW FRIEND STEELE LEARNED HIS FIRST LESSON.

AND HOW HE DIDN'T GET STUNG AFTER ALL.

I SHOULD like to tell you some of my trials and tribulations since I became the owner of bees.

About the 18th of last June, I was sitting at the dinner-table when I heard a singing noise, and asked my wife what it was. In answer to my question she said it was neighbor Spilser's bees swarming. As I had never heard or seen such a thing, I had to go over and see what it was like. Mr. S. was not at home, but his father-in-law was there at the time, and he hived the bees, while I stood about fifty feet off, waiting to see him sting. I have heard many stories of bees stinging even to death, but he came out without being stung at all. He told me to come and see them in their new hive; but no, not I. Finally, after a half-hour or so, I got up to the hive. As soon as I got there, one of their number wanted to form a better acquaintance, and came rather too near for me to stand it. The old man told me not to strike at it, and it was a trying moment; but at last the bee did alight on my face, and then departed in peace, and I left, "the hero of the hard-fought battle." I then and there made the bargain for the next swarm that came. The following Sunday, Mr. S. was home, and a swarm came out and was hived by

him, I being there too. After they were hived, half of them went back again to the branch they were taken from. That time I went up after them and shook them into a tin pan, covered the pan, brought it to the hive, and emptied it in front, *without being stung!* That made me feel as brave as any man could feel. Well, about one quart of bees went back again. I asked Mr. S. if he would not hive them. He said, "No; you may have them if you will hive them." I got a small honey-box and put them in, thinking I had another swarm to begin with (Mr. S. all the time smiling). I put the box on the stand, and in about half an hour not a bee was in the box. Of course, the laugh was at my expense. I consoled myself, however, with the belief that, in time, I may know as well as Mr. S. the reason why they did not stay in the box.

Well, a couple of days after, another swarm came off. Mr. S. not being at home, his wife came over to me, asking me to hive her bees. I did so, the swarm hanging to a limb in an apple-tree close by. I got a pan and went up, but the swarm was in such a position as to be right over my head. The consequence was, that about a quart of bees fell down on my head and shoulders. But what do you think, Mr. Root, when I say *again*, that I did not get stung? The women declared I was "the luckiest man" they ever saw, and would better get another swarm. So I did, and I made a hive with movable frames, though I had never seen any before. Mr. S. keeps all of his in box-hives. The bees built their combs in such a shape that I could not get any honey away from them, so I went into winter quarters with them as they were. The one in the box is weak, because the bee-worm came pretty near destroying them altogether. The other one is good and strong, if I can be the judge, and I hope I am right. If I succeed in getting them through the winter, I will put them in your hives and commence to learn my A B C in bee-culture.

OTTO STEELE.

Toledo, O., Jan. 4, 1880.

Ladies' Department.

NATURAL VERSUS ARTIFICIAL SWARMING.

YOU seem pleased to hear how your subscribers are doing with their bees, therefore I give my report. I lost none last winter, and commenced the spring with 12 stands; 6 appeared weak, the other 6 strong. I had not succeeded with artificial swarming in '78, so I let them have their own way this spring. The 6 strong hives swarmed twice; the other 6 did not swarm, but grew strong and made plenty of honey. I made only one swarm, so I had 25 colonies, and sold 1,100 lb. of comb honey from 22 stocks; the other 3 were small swarms and did not store any surplus. They are all heavy now, and doing well on the mustard that has been blooming for the last three months. I paid every cent I owed for my hives, and had something over; so I am satisfied. If I do as well next season, you will be sure to hear from me.

MRS. EMILIE C. MOSELEY.

Oyster Creek Station, Texas, Dec. 11, 1879.

Pretty well done, my friend. As a general thing, especially with beginners, I think I would rather advise natural swarming. They will then generally avoid dividing too soon, as well as too often; for bees do not usually swarm, unless there is a fair prospect of the new colony's being able to make a "live" of it.

SELECT QUEEN RAISING.

AS the poultry man, or the breeder of fancy horses or short-horn Durhams, to be successful, must breed from select stock, so still more important is it for the apiculturist, when raising queens, to breed from stock having the most points of perfection, as the queens become the progenitors of the entire colony.

First, the breeding queen should be from pure stock, either Italian or Cyprian, as the case may be. Though a cross among bees, as among other stock, might possibly do well, yet we like to know what our stock is.

The second point at which I would aim, is to get prolific queens. This, indeed, is of prime importance. If you would have strong colonies, you must have queens that will commence to lay early, continue to lay abundantly, and keep on in the way of well doing until late in the autumn.

Third, we should aim to raise active honey-gatherers. Some queens and their progeny are as indolent as some of the human species; they work occasionally, as pressing necessity impels them, but are never found with much surplus store on hand. Such a race, whether of bees or men, is unprofitable stock in any community.

Fourth, another good point to observe in our queens is *non-swarming*,—contentment in attending to domestic duties in the old homestead. When the lower story is well filled with honey and brood, such queens, instead of absconding to look up a new and empty home, will go up stairs in the old home and fill the honey-boxes. That some bees are more inclined than others to remain in the old hive and fill the boxes is as evident to bee men, as that some breeds of fowls are non-sitters, while it is as difficult to break up the sitting proclivities of others as it is to get some colonies of bees to work in the boxes of the upper story.

Fifth, bees that are of a quiet disposition are desirable. Some bees will permit you gently to handle and look over the frames, and remain docile and friendly, while other colonies in the same apiary will buzz around and dive at you in a sharp and unfriendly manner. Breed from quiet stock, when raising queens.

Sixth, a large queen of good shape is desirable to breed from. Like begets like. Small queens are apt to have small brood, and, I think, are more inclined to be cross.

To observe all of these good points, with others not mentioned, in the queen from which to breed, it will be necessary to notice her progeny for a year or two. Hence I would not recommend breeding from a young and untested queen. Also, at one or two years of age they are more mature, and their progeny preferable on that account. In my next article, I will tell the inquiring ones of the A B C class how to raise these queens.

J. ASHWORTH.

Lansing, Mich., Jan., 1880.

SIMPSON HONEY PLANT, AND ITS CULTIVATION.

SIMPSON honey plants need very little cultivation after the first year. I would transplant them to ground pulverized and in good condition, such ground as you would expect to bring a good crop of corn. Set the plants about 3¼ ft. apart each way, and hoe them to keep down weeds. The

first season they will make a growth of about 4 ft., and blossom considerably. The second season, you might still keep down the weeds, and, if planted on very good soil, you might expect them to grow to the height of 6 or 8 ft.; and then, oh! it is wonderful, the prettiest sight you ever saw, to see the bees go crazy over it.

The way I have been cultivating it, for the past 40 years, is by cutting down other weeds and brush, and letting the skull-cap (that was the name that I knew it by) remain. But, of late years, since friend Simpson brought it to the notice of bee keepers, I have taken a little more pains, in its cultivation, and I attribute it to this, that it attains its great size. The question is often asked, what kind of soil does it require? It grows on any kind of soil, from low, swampy land, to the high hills or rocky land,—in old pastures, in the fence corners, by the road side, on the banks of creeks, etc. I think it will grow and do well in any state of the Union. It is not easily killed; it will grow in the meadow, where it is mowed down every year. I found a stalk in my corn field, that had been plowed under in the spring, as the field was in meadow last year. It sprouted up, blossomed, and was just ripening seed, in the first part of Oct. The variety was the early kind. I did not know anything of the late variety, until within the last ten years. Before that, it was of the early variety.

I think the best time for sowing seed is about the first of March; although those having seed, perhaps, would better sow at different times, so if they fail at one time, they may hit it at another time. I shall sow every week, from the first of March till the first of May. I expect to raise several million plants, this coming spring. Let us see if we can not supply bee keepers with such honey plants and seeds, at a reasonable price, so we can all live, prosper, and be happy. Sow seed in boxes, in leaf mold, as described in Jan. No., by friend Root.

W. P. IRISH.

Norton Center, Summit Co., O., Jan. 7, 1880.

ARTIFICIAL POLLEN, AND FLOUR FEEDING.

CAN'T you give us an article on artificial pollen, in Feb. or Mar. No., and tell us what is best?

Is pollen used by old or young bees, or both? If the old use it, they must store for cold weather, if there is none in the hive left over from last summer? Is wheat flour apt to become too hard for the bees to use, if they are fed all they will carry in on warm days?

My 20 stands have carried nearly 1 lb. a day, almost every day this month. Brood rearing has commenced. Hives are clean, and bees in perfect health. Prospects are good.

A. W. KAYS.

Pewee Valley, Ky., Jan. 20, 1880.

Wheat flour will harden in the cells, if the bees get too much of it, and it is on this account that I would prefer giving them rye ground up with oats; the coarse material in this renders it less liable to get too hard. I would not wish to have them carry in much more of any of these substitutes than what they use daily; for should they have very much stored up when natural pollen makes its appearance, they will be very likely to let it remain in the combs untouched until it gets hard. Giving them flour in the shape of flour candy, I have never known to do

any harm in this way. It may be that some of the new comers do not know how to get their bees started on flour or meal.

HOW TO START BEES TO WORKING ON THE MEAL.

Any day when the bees are flying, before they get natural pollen, make a small heap of meal in some sunny spot, out of the wind. To get their attention, start them on a piece of honey comb or candy, and when they get to working on it briskly, set it, bees and all, on the top of the heap of meal. The heap may be corn meal, middlings, wheat or rye flour, buckwheat flour, or almost anything in the shape of ground grain. The bees will soon forget the honey, and begin hovering over the meal, and, every pleasant day after that, they will carry meal to your perfect satisfaction, if you keep it in readiness for them. I have never yet found any bees, which I could not teach, in a couple of hours, to carry it. Have the meal in some large, shallow boxes, so you can easily protect it from the rains that are apt to come up suddenly, at this time of the year. Bees of all ages work on it, and use it, and it saves their stores quite materially. As it will start brood rearing largely, be sure that the cluster is well protected against any sudden freeze that may come.

THE SIMPSON AND THE SPIDER PLANT.

RAISING PLANTS FOR SPRING PLANTING.

THE amount of correspondence in regard to these, and the call for seeds, indicate that they will have a thorough trial, by a great number of individuals, and in very diverse localities. I am really afraid some of the friends are going into it too largely; or rather, I am afraid they have not the necessary skill and knowledge, and will have "bad luck." There is no harm at all in buying a 5c package and seeing what you can do, but I would not advise you to try to raise plants for sale, unless you are used to the business of plant raising. I copy the following from a seed catalogue giving the prices on cabbage and tomato plants, and I think our honey plants should be furnished at about the same figures:

Greenhouse and hot-bed garden plants, as usually grown, have but few roots, are tender, spindling, and unused to outdoor weather. The shock of transplanting either kills or puts them back for days and weeks, so that seed sown in the open air often surpasses them, both in earliness and yield. Mine are transplanted from one to three times, making them very stout, with an abundance of roots, which are the life of the plant. Before shipping, all plants are carefully hardened off to endure the ordinary outdoor weather without injury.

PRICE LIST.

Plants "By Mail" are sent post-paid, at prices quoted. "By Express" are sent at buyer's expense.

	By Mail.	By Express.
	doz. 100.	100. 1000.
EARLY CABBAGE.	\$.15 .75	.50 4.00
TOMATO.	.25 1.50	1.25 7.50

* In cans, by express only,
60 c. per doz.

4.00 30.00

* Tomato plants "in cans" are shipped and transplanted to the field without disturbing the roots in the least. They will not stop growing a day, and will produce ripe fruit two or three weeks earlier than ordinary plants. Our first ripe tomatoes were picked July 14th, of Canada Victors.

There, if I could furnish such plants as described above, at the prices given. I should like very much to sell them; but I am afraid I shall not be able to do it. The tin can idea, I have tried, and know that it is an excellent one; but I presume some little wooden boxes, such as could be made by dividing a section box into 4 apartments, would answer as well as tin cans. Three of these would hold a dozen plants, in very convenient shape to ship by express. Last fall, I sent to three different dealers for some potted strawberry plants. One lot came in a soap box; another in a box made purposely to hold a certain quantity, and was quite an improvement over the first; the third came from an establishment in Michigan, and were put into a new, tasty, little basket, and every leaf was perfect, and of such a bright, thrifty look, that almost every one uttered an exclamation of praise, the minute their eye caught a view of the package. As I held the basket up and turned it around, I actually felt it was almost worth the fifty cents (all I paid the man), to have just that look at it. I do so like to see goods put up nicely. I planted those Western-Chief strawberries on the best place in my creek-bottom garden, and they kept growing without the wilting of a leaf. They were so pretty, it was just fun to take care of them. They are pretty even now in the middle of January, whenever I lift up the mulching that covers them. Well, the moral of all this is, we want to take care of the honey plants in just this way, if we are to get large yields of honey.

EIGHT OR TEN FRAME HIVES.

IF you were to use the genuine L. hive, and were not going to use any division board, either in summer or winter, or use the extractor,—in fact, if you were not going to disturb the brood chamber very much anyway, and, for surplus comb-honey put section boxes on the top of the frames, would you prefer 8 or 10 L. frames in the brood chamber? I was thinking which would be better, to use 8 frame hives instead of 10 frame, or to remove the two outside, L. frames, and in their place put 2 chaff division boards. Let me know your opinion.

Lansingville, N. Y., Jan. 13, '80 D. W. FLETCHER.

If I were sure I should not want division boards or surplus sections in the lower story at all. I do not know but I should use 8 frames only. I have often thought of a chaff hive, with only 8 frames below. One objection is that a strong colony would be in much greater danger of starving; for these outside frames usually are filled with honey, and form a sort of reserve store, in case the colony should, by any chance, run short unexpectedly. Another objection is that, if 8 frame hives were made single story like the Simplicity, they could not be used interchangeably with the ordinary 10 frame hives. We have now a lot of 8 frame hives, very nicely made, that are piled up with the refuse hives, just because they can not be used with the others. I would not invest very largely, at first, friend F., in any thing out of the regular, beaten path.

ANOTHER FEEDER.

IN LAST fall, I needed some feeders; and, having but few tools, I tried the following plan, and found it worked well:

I took small pieces of boards of clear pine lumber, 6 by 8 inches in size, and cut in each a trough 4 by 6 inches, and over half an inch deep; I then waxed them by pouring in melted wax and pouring it out immediately, to make them perfectly tight, and tacked a piece of wire cloth, such as is used here for door screens, over the trough, and in the center I drove a tack, springing the wire down tight to the bottom of the trough. If the center of the trough is made a little deeper than the edges, the bees will take all the feed. These feeders gave me satisfaction. I never found a dead or disabled bee about them, and I find them easily and speedily made, with but few tools. I bore holes across each end, and then split out the wood with a chisel. Should the screw of the bit go through, I stop the holes with putty before I wax them. They can be covered like Shuck's feeder, and used for feeding during the day, at the entrance. I think they answer as well as the Simplicity, and are more easily made by A B C scholars.

W. D. RAISTON.

Scotch Grove, Iowa, Dec. 23, 1879.

Many thanks, friend R., for your novel and ingenious device. It is quite similar to the plan I have given in the A B C, of laying cheese cloth over a milk pan. No doubt the boys will thank you many times for an idea that will enable them to make good feeders for three cents each or less.

P. S.—A piece of tinned wire cloth, soldered to one of our cheap tin plates, would make a feeder for about two cents.

HONEY DEW AGAIN.

DO THE LEAVES OF TREES, AS WELL AS BLOSSOMS, SOMETIMES SECRETE HONEY?

EDITOR OF GLEANINGS:—In December number, you ask me what kind of an oak it was on which I found such an abundance of the honey dew. It was the *Quercus nigra*.

In reply to the question, is it really a fact that trees sometimes bear honey from their leaves, as well as blossoms, I say, they do. As evidence of this, I offer the following:

Virgil stated, prior to the Christian era, "Hard oaks shall distill the dewy honey."

Mr. Weimeo, of this county, has seen the honey dew on the leaves of the *Quercus macrocarpa* (Bur-Oak), and also on the leaves of the beech in Ohio, and, in the state of Virginia, on the leaves of other trees and shrubs; but he never saw it till some of the leaves began to don the yellow or purple hue of autumn.

Mr. J. Taylor has seen and tasted the honey dew on the leaves of the *Nyssa multiflora* (Gum tree). It was so thick that, by pressing the leaf with the fingers, it would adhere enough to raise the leaf. These leaves had begun to assume that beautiful rosy tint so common to this species of tree, in the last of the summer or beginning of the fall months.

He also noticed the bees working on the heads of wheat in the time of harvest. He said to me, "Six of us went to harvest wheat. When we arrived at the field, we noticed quite a dew on the heads of the wheat; every beard had a small drop on the outer end, and bees were flying, and working on some of

the heads. On close inspection, I found, near the grain, a tenacious fluid which was touched and tasted by all of us, and found to be quite sweet. This was not found on all the heads but on occasional ones."

Mrs. Dr. Noble, a botanist, has found the honey dew several times on the leaves of the beech, in numerous, small drops.

My neighbor, Mr. Simeon F. Teal, has a large, state-tree, *Quercus alba*, or white oak, standing alone in an open field, the only remaining, living monument of the primeval days of the forest. From its colossal trunk, stand a few offshoots, or short branches, the longest of which is about ten feet from the ground. While Bro. Teal and son were passing by the tree, in Sept., 1868, they heard the hum of bees; they halted and found them working on the leaves. Mr. Teal's description of the numbers of bees on the oak reminds one of the ancient bard who sang, "And from the sacred oak, swarms of bees resound." He said, "I never saw so many bees on one tree in my life, as there were on that oak."

The writer of this has seen the bees work on the leaves of *Salix nigra* (Black willow), long after the flowering season had passed, and many times has he watched the bees as they sipped the dewy nectar from its leaves. He has seen them work on the ripened grain at or near the time of harvest, and has seen the inspissated nectar on the leaves of the wild cherry and sycamore trees.

These instances are enough to establish the fact that leaves as well as blossoms furnish honey for the bees.

J. B. CLINE, M. D.

Perin's Mills, Clermont Co., O. Dec. 17, 1879.

THE ORIGIN OF HONEY DEW.

The last number of your magazine has an article on this topic. I have seen many cases of "honey dew" on many kinds of plants. Some have been sent me by letter. I have never seen one, in which I thought the leaves exuded the sweet. Under a high magnifying power, I could not detect openings where it had escaped, nor were there any glands which could secrete the honey. The dew is usually on the upper side of the leaf, while the *Stomata*, or little breathing pores, are on the under side of the leaf.

On careful observation, for some days, I believe that, in all cases, honey dew will be found to be the exudations of small insects, known as plant lice. The lice may not be seen for sometime. Some of them move about quite freely, and hide under pieces of bark. A case of this kind occurred the past summer, on some larch trees near my door. Professor A. J. Cook and myself, after a while, fully satisfied ourselves that all the honey came from lice which we did not find for a week or more after the bees found the dew. The same was found on our Norway spruces. Of course, there may be cases unlike any I ever saw.

Many species of plants are furnished with glands and glandular hairs which secrete a liquid or viscid substance. It may be that, in some cases, this secretion drops on to the leaves below and causes "honey dew," but I believe the above statements are near the truth. In *American Naturalist* for 1878, the writer illustrates some of these glands on the leaves of snow-ball, and fruit of trumpet creeper. Other plants have glands. It is not likely that I know all about this subject.

W. J. BEAL.

Mich. Agricultural College.

Heads of Brain, From Different Fields.

THE QUARREL ABOUT THE SUNSHINE.

HAVING been away and very busy, I neglected to write in regard to that "quarrel about the sunshine," in Nov. GLEANINGS. I have to say, that I am wrong in the matter, and must, therefore, beg Mr. Dean's pardon for having contradicted him. I have been busy all day to-day, planting orange trees, and every one is complaining of the heat. We have had no frost here, to kill even tender tomato plants. On Christmas day, my bees were carrying in great quantities of pollen. I have Simpson honey plants and spider plants up and growing, and by the time it is warm enough "up North," I will be ready to try the experiment of sending them to those of your readers who want the plants early.

N. R. FITZLUCH, JR.

Picolata, Fla., Dec. 31, 1879.

Many thanks, friend F., for your frank and honest admission of your error. If all controversies could end in so pleasant a manner, I should not be so much afraid of letting them creep into our journal. We shall be very glad indeed to have you furnish us early plants, and invite you to tell us how much they will be worth, as soon as you have them ready.

HONEY PLANTS AND THEIR CULTIVATION.

Are sweet clover, or melilot, Simpson honey plant, and Mollie O. Large spider plant good for anything except bee pasturage? If not, will they grow along the lanes and road-sides? Will any of them grow on low lands? or will they do best in well fertilized and cultivated soil? Please give us directions how to cultivate them. Will the spider plant bloom the first year from the seed?

None of the plants mentioned are of any value, so far as I know, except for honey, and none of them will bear honey to good advantage, without cultivation. The Simpson honey plant does best, I believe, on rather low land, but sweet clover will grow on the poorest ground you have, and on the stoniest road-side. For all that, I think good soil will be most profitable for honey.

The spider flower will blossom the same year, but it will be best to sow the seed in a box in the house, and transplant, as we do tomato plants. The Simpson honey plant, if treated in the same way, will blossom a little the first season, but not fully until the second season.

The sweet clover is very hardy, and may be sown the same as red clover.

QUEENLESSNESS IN COLD WEATHER.

Can I discover, in cold weather, when a colony is queenless, without looking through them? If so, how?

G. A. WILLIS.

Enfield, Ill., Dec. 9, 1879.

It is a pretty hard matter, at any time, to tell, without opening the hive, whether a colony is queenless or not, and during cold weather, when bees are not flying, it would require a pretty keen eye to tell much about it by the looks of the outside of the hive. Beg pardon, friend W., I did not intend to be ironical.

You tell one bee-keeper to punch holes in his combs, for winter passages, with a sharp stick. I will send you something better than that to do it with. I have just lost two swarms of bees, which starved with sugar in the hive.

SAVING BEES THAT ARE TO BE BRIMSTONED.

If your A B C scholars wish to keep, over winter,

the bees which their neighbors intend to kill, tell them to save up the combs in the summer, and hang them in an empty hive in the fall, and drive the bees into them, and there will be no bother to make candy.

SURPLUS POLLEN.

Nellis offers \$25.00 for any plan that will take the bee-bread out of old combs. I can do it by hanging them up, and, with force-pump or large-sized syringe, squirting water into the cells once or twice a day, until they are clean; or else wet them and hang them in the hive.

DAVID M. GOEWY.

Lausingsburgh, Rens. Co., N. Y., Dec. 29, 1879.

Shall be glad to see your arrangement that is better than a sharp stick, friend G. Bees are much more apt to starve on sugar or candy, if away from the cluster, than with honey or liquid stores. Combs of sealed honey will enable you to save colonies that are to be brimstoned, every time, so far as my experience goes. As I have never yet seen too much pollen, I do not know how I can offer suggestions in the matter. I should take such combs and put them into hives early in the spring, and have the pollen transformed into live bees.

DEAD BEES IN FRONT OF THE HIVES.

I have 12 stands of bees now, all in fine condition except one. This one is a very powerful swarm, but I find from one to two handfuls of dead bees on the bottom-board, every three to four days. They have plenty of food, are in warm quarters, and are pretty lively too, as I found out by opening the hive a little roughly. Now, what is the matter in this hive? The other hives have hardly any dead bees, when compared with this. I have made several chaff, or rather double, hives, and filled them with corn bran, as I could not get any chaff. How will corn bran do as a substitute for chaff? It seems to keep the hive very warm. I also put corn bran in all upper stories of my single hives. Thus far, it seems to do very well. Please tell me your experience with bran.

M. KUEHNE.

Olmsted, Ill., Dec. 17, 1879.

It may be that the colony in question has a greater number of old bees than the rest, and it is only those that are dying of old age, or they may be diseased. I have never tried bran, but have no doubt but that it will answer fully as well as chaff, and it may do better. It would be more expensive with us. You will have to be very careful that no mice, by any possibility, can get in.

ALSIKE CLOVER SEED—SOME POINTS IN REGARD TO HARVESTING.

About raising Alsike clover for seed, I would explain a little more in your A B C in Bee Culture, for it is not handled like red clover. If it should be, there would be no seeds left in it. It is ripe here just before harvesting, and should be cut in the morning, before it gets too dry, and raked into rows the same evening. When the dew commences to dry on it the next day, if the weather is fair, it should be drawn together. By handling it in this way you will not only get the most seed, but you will also have good feed after it is hulled. I would just as soon have it for my sheep as the first crop of red clover. Could I exchange Alsike clover seed with you or your neighbors? I would like to exchange seed, but hate to buy it. May be some of your neighbors would like to change too. I would like to have no timothy or any other seeds in it.

E. NEST S. HILDEMAN.

Ashippun, Dodge Co., Wis., Dec. 29, 1879.

Thanks, friend H., for your practical hints. As we are buying Alsike all the time from different localities, it would be no object for us to exchange. Possibly, some of our readers may wish to do so. The matter of Alsike in the A B C has already been changed. You probably have an early edition.

COMB BUILDING IN SPRING RATHER THAN FALL.

Why is it that bees make more comb in proportion to the honey they gather in the spring and summer, than in the fall? And why are they so much more inclined to store honey in the lower division of the hive in the fall? W. F. BASON.

Haw River P. O., N. C., Dec. 23, 1879.

I think it is because the bees seem to recognize in the spring that a honey crop is coming, and that much storing room will soon be needed. In the fall, on the contrary, they seem to have a sort of instinctive knowledge that winter is coming, and that it will be better to well fill the combs they already have than to build more; hence they store the honey below, near the brood nest. To be sure, warm weather and new honey incite comb building, and cool weather the reverse, but the point is, do not bees behave differently during the fall and spring, supposing the temperature of the atmosphere and the flow of honey to be the same? I think they do, and for the reasons I have given, though it seems difficult to suppose that they really know fall from spring. We can often get extracted honey in the fall, by giving them empty combs, when we could not get them to store it and build the comb.

DOOLITTLE'S THEORY IN REGARD TO DORMANT EGGS.

I thought that I had made a great discovery this summer. I will give the experiment as it occurred, and then you can form your own conclusion. I had a colony of hybrids that I concluded to break up into nuclei for queen rearing. I removed the queen, and in 6 days from that time, I removed all their queen cells, and gave them eggs from a choice queen. In 8 days more, I removed the cells from that comb and inserted them in four other combs, and left them 1 day, and then divided them into 5 parts, leaving one cell with the part on the old stand. They all, with one exception, destroyed the cells, so I concluded they were a bad lot, and I would leave them alone for a few days. The fourth day after dividing, I concluded to try them again, with eggs this time. The second one that I opened had two queen cells started and larvae two days old. Here comes in the discovery; *nineteen* days after the queen was removed, I found brood two days old! where did it come from? Why, they stole it from some other hive. They had actually been robbing their neighbors of their brood to rear a queen, for I thought it was impossible to save eggs that long; but you see from friend Doolittle's report on page 434, in Nov. No., there is nothing strange about it. Please give your opinion of the above.

DUCKS' FEATHERS FOR WINTERING BEES.

I have my bees, I think, in good winter trim. I have them packed with chaff cushions at the sides and on top, with 5 in. of chaff outside of hives, except the colony containing the imported queen. As she is a foreign lady, I thought that I would treat her with a little more courtesy than the others, so I borrowed of my wife, a pillow of feathers that she picked from a trio of fine white ducks she has.

HOW TO MAKE CHAFF CUSHIONS WITH BUT LITTLE COST.

Take old coffee sacks; they will only cost 5c. apiece, and one sack will make two.

Whitestown, Ind., Dec. 1879.

S. H. LANE.

I should explain that your two day old larvae were from eggs laid by a fertile worker, friend L. The bees had been for some little time queenless, and it is rather to be expected that such eggs would be found at about the time you mention. If those eggs had hatched out a queen, or even produced worker brood, it would then have been a corroboration of Doolittle's theory. At different times, bees have been accused of carrying eggs from neighboring hives, but although they do carry eggs from one comb to another, it is extremely doubtful, in my opinion,

about their carrying them on the wing, in the open air. As they doubtless have many queer ways of doing things, which we know nothing of, I am glad to have these facts brought out. The operations of a fertile worker will explain a great many of these points, if it is borne in mind that they *may* lay eggs when the queen has been but a very few days absent.

Your coffee sacking is much the same thing as the burlap, but I hardly think one sack would make two cushions as large as those we use in the chaff hives.

MOORES' "JIMMY" FOR THE APIARY.

A. I. Root:—I send you, by this mail, a full-sized model of a chisel, so to speak, which I find *very* useful in an apiary. I tried different sized chisels and screw-drivers but they were unsatisfactory. I then had made an implement like this, but smaller, which I liked better than anything I had tried, but it was too light and narrow. Having lost it, I made a wooden model like the one sent, and had a blacksmith duplicate it in iron, pointed, at the broad end, with steel. As soon as it was ready, I tested it, and found that I had just the thing. I have shown it to several bee-keepers who approve it. I had occasion to assist a friend to extract, this fall, and carried my chisel with me. After using it awhile, he remarked, "I am bound to have one, cost what it will."

I use it to pry off the covers of the hives, using the broad end beveled side up; to pry apart the top and bottom stories, using the narrow end; to move the frames in the hive, when tightly gummed to the rabbets, using the narrow end; to slice off bits of wax and propolis attached to the cover and sides of the hive, and from the top and bottom bars of the frames, using the broad sharp edge, with a pushing motion; to scrape propolis (in cool weather) from the rabbets and from the edges of the stories, using the sides of the broad end, in repeated strokes. You can't imagine what quantities of propolis we have in this sweet-gum country.

I hope you will have one of these chisels made and give it a trial, and if you are pleased with it, and will offer it for sale to bee-keepers at a reasonable price, I shall consider myself paid for sending the model and writing you. You may think the weight an objection, but I think, on trial, you will find it a decided advantage.

W. L. MOORES.

Cyruston, Lincoln Co., Tenn., Dec. 16, 1879.

We give an engraving of the tool below. Its length is 14 inches; width of large end, 1½, and thickness, ¾; the small end is ¾, by ¼.



TOOL FOR WORKING AMONG HIVES.

I have no doubt the tool will prove a great favorite; and, as friend M. has suggested it, I propose that he should have them made and offered for sale.

MR. JOSEPH M. BROOKS.

If you have time, I would like to tell you how I came to hear of you, out here in Colorado. It was through the kindness of Mr. Jos. M. Brooks, Columbus, Ind. And here let me say, as it is but an act of justice due him, that I have never dealt with a more honorable man. Last summer, when I had almost got discouraged in bee-keeping, I wrote to Mr. Brooks for an Italian queen, and received a queen and two frame nuclei, in perfect condition. Oh such beauties! they were the admiration of all who saw them. Being the yellowest and largest I ever saw, I took them to our annual fair, to compete for the premium, and took the first prize, \$5.00 in gold, for the finest Italian queen. Mr. Brooks has been very kind in writing and answering my questions. I have found his letters very instructive.

MRS. B. WOODBURY.

Boulder, Boulder Co., Col., Dec. 30, 1879.

There! friend B., just see how folks "talk about you" and your yellow bees. I have

heard of you a good many times, and your customers all seem to write just that way. Perhaps it has never occurred to you at all, that patience and faithfulness in business will get out in time, but it has to me; and now, if this little bit of praise should make you proud and any the less faithful, I shall be just a little mistaken in my estimate of you; that is all.

DOES A QUEEN LAY DRONE AND WORKER EGGS ALTERNATELY? AND HOW?

I have a few questions to ask you, as some of my neighbors and myself cannot agree. Has the queen, in laying eggs on a comb that has both drone and worker cells, the power to lay a worker egg in one cell and pass on to a drone cell and there lay a drone egg? or does she lay worker eggs until done, and then drone eggs? As it is admitted by nearly all, that a fertile worker lays drone eggs only, and an unfertile queen also, the unfertile queen is about on the same footing with a fertile worker. Now, the question we want explained fully is, does a fertile queen lay drone eggs at all? Did you ever see a queen lay drone eggs? I opened a hive to-day, Jan. 9th, and found 3 nicely capped drone cells, and a number of drone cells all capped over, but no other eggs or brood. The colony is very strong in bees, but I found no queen, and don't know whether there is one or not.

H. BREENMAN.

East Germantown, Wayne Co., Ind., Jan. 6, 1880.

A queen does lay both drone and worker eggs, and she lays one and then the other, just as she happens to find cells. The question as to how she should go right along without seeming to bestow a thought on what she is doing, and have one egg produce an insect so widely different from all those produced by the eggs she layed just before and just after it, is a puzzling one. Wagner, to account for it, supposed that the size of the cells might govern the matter by compressing her body, and that she did not really know whether she layed a fertilized egg or not; but, since queens often lay eggs on comb that is but little more than the base, as we often see them on sheets of fdn., this compression theory has been mostly abandoned. Again, if she stops to think every time she comes to a larger cell, why does she not oftener make mistakes? I am inclined to think she decides the matter by a sort of instinct, and without a thought, or anything that could properly be called a thought. Such operations are not uncommon, if I am correct, in the animal and insect world.

Sealed queen cells, in the winter, are almost positive evidence of queenlessness. As it would hardly be possible for a queen to be fertilized in winter, it will be of no use to raise one now, but be sure to give them some eggs in March, and again at intervals of 10 days, until they can rear a fertile queen, destroying any that prove to be drone layers. It might be more profitable to purchase a queen for them, if you choose.

FREQUENT HANDLING; IS IT DETRIMENTAL?

After reading, in the daily *Tribune*, a wonderful account of how some one had made quite a large sum of money by keeping bees two years, I thought I would see what I could do. So, last spring, I got 5 stands of bees for \$50, and new hives, fdn., books, &c., to the amount of \$37, the full cost of my start thus being \$87. Out of my 5 stands, I made 6 new ones, so that now I have 11 strong colonies, which, thus far, have wintered very nicely. During the summer and fall, I sold \$64.50 worth of honey, both strained and comb. I think I should have had more honey for market, if I had not kept bothering them so much. I think I have been quite successful thus

far, and hope I shall do better next year. My bees are hybrids, and some are almost black.

DELL CARVER.

Denver, Col., Jan. 5, 1880.

And I am inclined to think, my friend, the bothering was just why you did do so well; for your report is an extremely good one for a beginner.

INTRODUCING CAGE FOR COLD WEATHER.

I send you a cage for cold weather, or for any other time. With the little wire and stick, you can suspend it at any place you please in the hive, and thus insure to a queen safety from chilling, by placing her among the brood, just where a caged queen should always be when caged in a hive. The hollow wooden stopper is to be filled with candy, and kept in its place by a tack. When an ordinary vial is used, I put in a wooden stopper or cork with a notch in one side; but with the one I send you, no cork is needed. Now I have still another cage which I like better. It consists simply of one vial of water and one of honey, a stopper filled with candy, and a rectangular wire cage. The cage might be soldered together.

M. G. KEENEY.

Vevay, Ind., Jan. 8, 1880.

The cage is certainly an improvement over the one I gave in the Dec. No. The hollow wooden stopper is neatly turned, and the substitute for the bottle looks like the bulb of a thermometer tube, only it is much larger. This suggests the idea that a vial with a mouth sufficiently small will require no cork, and the bees would then always have the most perfect access to the water. But, friend K., how are we to get the water or honey into these small mouthed vials or glass balls? I do not know that I should think it necessary to have the introducing cages contain both water and honey, but, for a shipping cage to go to all climates, subject to all contingencies, I would use water, honey, and candy.

EXPENSIVE HONEY.

I have spent about \$15.00, and all I have for it yet is about 40 lbs. of honey; but I don't want to stop taking GLEANINGS. I have some notion of moving into the country, where I can cultivate honey plants.

SPIDER PLANT NOT ALWAYS A SUCCESS.

I cultivated a plant here last summer, called spider flower; but bees took no notice of it. The description of yours is just like it, but it must be different.

MRS. J. E. SHORT.

New Richmond, O., Dec. 25, 1879.

More than a dollar a pound for honey is enough to discourage almost anybody, and it is on account of these "blasted hopes" that I so strongly advise beginners to commence with one or two colonies. I am afraid, my friend, if you invest money in raising honey plants, with a hope to make it pay financially, you will be destined to more disappointment. It is quite likely that the spider plant, in common with most other honey plants, will entirely fail of yielding honey in some seasons. Some very good honey plants do not give a full yield of honey oftener than one year in four; and it would be nothing strange if they should yield no honey at all two seasons out of the four.

FROM FRIEND TAYLOR AFTER HE GOT WELL.

Many, many thanks for your kindness. I have been very sick, but am now convalescent, thank God. O my friend, how little do we appreciate the great blessing of good health till we are stricken down. My wife joins me in best wishes to "Novice" and his, and a merry happy Christmas to little "Blue Eyes" and the baby.

R. C. TAYLOR.

Wilmington, N. C., Dec. 23, 1879.

ARTIFICIAL PASTURAGE.

I would like to ask through GLEANINGS, what the best honey plant seeds are, that can be sown on unbroken bluegrass and prairie sod, so as to produce bloom the coming season. G. S. GRAFF.
Omaha, Douglas Co., Neb., Dec. 27, 1879.

I know of nothing that would fill such requirements, and very much doubt whether it is possible to find such a plant. The honey plants that will make their way so as to drive out grass and weeds generally require several seasons to do this, and, even then, I do not know of any such that, without question, are profitable. In fact, aside from clover, buckwheat, rape, and a few other plants that are valuable for other qualities besides for the honey, the whole matter of artificial pasturage is, as yet, but little more than experiment.

MOVABLE FRAMES AND ITALIANS, VERSUS BLACKS AND BOX HIVES.

The past season has been a poor one for bees. In the fall of 1878, I went into winter quarters with 18 hives, 5 box-hives and 13 frame hives. In the spring, they turned out lively, and all appeared to be in good condition, but never showed much progress. Among my 18 colonies was one Italian. To find out the difference between blacks and Italians, I put in section boxes for Italians, and also for two black colonies. I noticed no difference between them when I commenced the trial.

When the honey season had passed and the result was inspected, I got 50 lb. from the Italian hive, and 30 lb. from each black hive. Some of the rest of my colonies had 8 and 10 lb. surplus honey, and some had gathered nothing. In all, I got 180 lb. surplus, or 10 lb. on an average from each colony.

From the Italian colony I got, besides the 50 lb. of honey, 2 swarms after the sections had been removed. On the 29th day of Sept., to my surprise, a first swarm issued, and on the 4th day of Oct., a second swarm came out. Both swarms were hived, and built up by giving them some combs from other colonies. I have often thought of the cause of such untimely swarming, but I don't understand it yet.

My bees in box-hives have never succeeded as well as those in frame hives, and this fall, I transferred the 5 colonies into frame hives, without the least of any kind of trouble; no queens were lost and no robbing took place.

I closed this season with 20 colonies, all in movable frame hives. One of my colonies had a drone-laying queen, and as it was late in the fall, I united the bees with another colony. G. WENDELKEN.
Marietta, Ohio, Dec. 27, 1879.

GOOD FOR AN A B C SCHOLAR.

I wintered 4 swarms last winter, without any loss. From those 4 Italian colonies, I got 38 lb. of comb honey, in sections, and increased to 10 colonies. All are in good shape for winter. J. B. STATHAUER.
Gettysburg, Penn., Dec. 25, 1879.

THE "UPS AND DOWNS" OF AN A B C SCHOLAR.

Three years ago, I traded a cow for 5 stocks of black bees. The first season, I sold bees and honey to get pay for my cow, which I called worth \$50., and put up, in chaff, 20 colonies for winter.

WHAT MICE MAY DO.

Owing to the mice, I lost 15, as I failed to put screens over the blankets, which left me 5 to start with the next season. I sold over \$65. worth of honey, and put up 8 in the same way, only putting screens over the blankets.

FROM 8 TO 30 AND 900 lb. OF HONEY.

Last spring, I took out the 8 in good order, and have taken off about 900 lb. of box and section honey, and put up 30, for the winter, in the same way. I marketed my honey at home, selling about $\frac{1}{2}$ for 14c., the other half for 12 $\frac{1}{2}$ c. I have Italianized the rest of my bees, and have them in the L. hive. I shall send soon for Alsike seed for 5 acres, and 50 basswood trees. As I have to work, I intend that my bees shall. M. G. HAKES.
Tekonska, Calhoun Co., Mich., Dec. 17, 1879.

GRAPE-SUGAR CANDY MADE WITH HONEY.

Please tell us, in GLEANINGS, just how to make flour candy, using honey instead of grape sugar. Cassville, Mo., Nov. 29, '79. MARY A. TERRY.

Since receiving your card, I have had some candy made, using honey instead of cane sugar. It hardens more slowly, but, in 3 or 4 days, is just as nice to handle as the other. We have to-day put some over the hives, and will report how the bees seem to like it. I have no doubt, but they will eat it even faster, on account of the flavor the honey gives it. Therefore, if you find it cheaper or more convenient, make your bee candy with 3 lb. of grape sugar, 1 lb. of honey, and $\frac{1}{2}$ lb. of flour. Pour it into shallow trays and let it stand 3 or 4 days to harden.

PREPARED PAPER OF PASTEBOARD AS A ROOFING MATERIAL FOR HIVES.

Is not the cover of the chaff tenement-hive made of shingles heavy and inconvenient to handle? Enclosed you will find a sample of Water-proof, Hemp, and Manila Roofing, which, I think, would make a cheap, durable, and light covering for the tenement hive. It might also be used over hive covers made of several boards. It is manufactured by C. J. Fay, Second and Vine Streets, Camden, N. J. He will send you samples and prices upon application. It is made in different widths, from 16 to 40 inches, and costs from 1 to 2 $\frac{1}{2}$ c. per sq. ft.

Urbana, O., Dec. 7, 1879.

JOHN C. BARNETT.

This material has been much talked about, and to some extent used, for making covers to hives water-tight; but, so far as I can learn, those having used it have all dropped it sooner or later. After it is soaked with water, and it seems to me it must get soaked during long rains, it is very easily torn and injured. It does not seem to me as if it could possibly compare at all with tin, in point of durability, and yet the highest price you mention, is as great as we had to pay for tin, last summer. The quality of lightness, I value much; and if a paper can be produced that will stand the test of years, I should think it a great acquisition.

Bees in this locality did almost nothing the past season. The loss will be fully one-half, especially of those in old box hives. My bees, of which I have some 200 colonies, in Langstroth hives, mostly with 10 racks, packed in chaff and straw on 3 sides and over the top, are doing finely, if they have honey enough to go through to feeding in spring. They averaged about 16 lb. of honey to the hive, each hive having been carefully weighed about the 15th of November.

OPEN AIR FEEDING IN THE SPRING.

Will it do to feed grape sugar outside of hives, when the bees fly in the spring?

KEEPING BEES ON SHARES.

My bees are scattered over several miles extent. I furnish hives, and work on one-half shares. All were transferred from box hives in the spring, leaving out drone comb.

WHY DOES CANDY "DRIP"?

Drouth commenced in June, and cut off white clover, so that many colonies did not fill the brood chamber with comb. Fall flowers and buckwheat furnished but little honey, so that, in many hives, we had to use sugar boiled to wax and run into frames; but I see they drip considerably. Why is this? JOHN A. WILLIAMSON.
Argenta, Macon Co., Ill., Jan. 1880.

After the bees get so as to be able to fly in the spring, it will be perfectly safe to feed them grape sugar, in the open air, and the grooved board arrangement is perhaps the easiest and simplest way in which it can be done. The only danger to be avoided is that

they may be induced to go out after it during unseasonable weather, and get chilled so as to be unable to return. Last season, we fed considerable in the open air, between fruit bloom and clover, and the colonies that were busy at the feeders, kept building comb right along, until honey came again. The dripping from your candy is because it is not boiled quite hard enough. As it will burn if boiled the least bit too much, it has always been a nice point to get it just right. Of late, we add 1 part grape sugar to our coffee A candy, which makes it hard and nice to handle, and there is no possibility of its dripping.

QUEENS.—HOW THEY DIFFER, EVEN IMPORTED ONES.

I claim that a best queen, in addition to her other good qualities, should produce gentle bees. I got one of your best imported queens last spring, and, if not mistaken, paid you \$7.50 for her; she has all the good qualities except that her bees are *very* cross, nearly equal to hybrids. I have raised but few queens from her. You may say, "Why did you not send her back?" Just for the very reason that I wanted to keep her. Her bees are the yellowest, and are good workers, and she herself is exceedingly prolific. And then, you see, when my friends call on me, I can show them what a great difference there is in queens, even imported ones; for, all summer, right next to this cross one, stood an imported queen that I got 2 years ago last June from Dadant, which produced rather dark bees, but as gentle as pet kittens. She more than once allowed a young queen to be raised up by her side, there to stay and help her to fill the empty combs full of eggs. I looked the hive over in October, and there was another, the third young laying queen, but I did not find the old one. The first two had been removed to other hives. Also, right over there on the other side of the cross one, is another imported queen that fills the bill satisfactorily. I got her from you, one year ago last June, and from her I raise most of my young queens.

T. M. QUINBY.

Edenton, Clermont Co., O., Dec. 31, 1879.

It is quite a difficult matter, friend Q., to find a queen that excels in all points. You might look over a hundred hives, without finding one that was light, large, very prolific, and producing bees which are gentle, extra honey gatherers, light in color, etc., and I fear I shall many times fall short of furnishing one up to all these points. I will send to you all, as nearly what you ask for as I can, and if that does not please, you may send it back, if you choose. Many thanks to you for keeping the one with cross bees, friend Q. Have you tested the bees of the two as honey gatherers? I have often thought that the crossiest bees get most honey. Has any body else noticed the same thing?

HONEY DEW THAT "IS DEW."

Several years ago there arose a cloud in the south-west, producing a mist for the space of thirty minutes. The bees carried the same in, sipping it from the grass and leaves as though it were honey, and passing out and in excitedly. A heavy rain then stopped operations. Mr. G. G. Large (husband of Mollie O.) states a similar occurrence in the north part of this county. What was it? A. L. KILAR.

Pana, Ill., Jan. 5, 1880.

I can not explain it at all, friend K., unless that cloud was a cloud of insects of some kind that exuded the honey while on the wing. Will friend L. please stand up and give us the full particulars of the case as he witnessed it?

FASTENING THE COMBS TO THE SEPARATORS.

We have had great difficulty, inconvenience, and some loss, from the persistent habit of our bees of fastening the honey, in the prize box, to the separators. Have you any way to suggest by which we

may remedy this difficulty? We are thinking seriously of laying aside the "tins" unless we can get some remedy. Respectfully, T. HALLETT.

Gatena, Ill., Jan. 1, 1880.

We used to have some trouble of the kind when we used the 5x5 sections, but with our present size, there has been so little, we have not thought it worth mentioning. Where the sides of the box are so near, it seems that the bees do not consider any extra supports needed, and therefore do not attach any comb to the separators. This is an additional reason for using the Simplicity arrangement of sections, with the size 4x4. You can try omitting the separators, but I think you will afterwards want them back again, as have most others who have tried both ways.

CARPETING FOR COVERING THE FRAMES.

In GLEANINGS for Dec., you speak of carpet-mats for the top of frames. I used some last winter, in single story Simplicity hives, with chaff division boards, and the bees could not have wintered better; but, of course, there is a difference in the wintering and springing qualities of Italians. With the strain of Italians which I have now, I can winter on summer stands, prepared as above stated, without any fear of loss. Of good heavy carpeting, woven just wide enough to fit Simplicity hives, mats can be made, with the ends bound or serged, for 15 c. Bees are wintering well up to this time.

J. M. C. TAYLOR.

Lewistown, Frederick Co., Md., Jan. 1, 1880.

Now, friend T., if I should give you an order for 1,000 such carpet-mats, are you sure they could not be made for just $\frac{1}{2}$ of 15c.? You see, I want to sell them at 10c., to compete with the enameled cloth, but I can't well do it, unless they can be afforded for about the price I have mentioned. The carpet seems to be warmer, than either the enameled sheets or the wood mats. I have tried cheap, thick, woolen cloth, but the bees ate it full of holes, before it had been used one season.

SOURWOOD HONEY, ETC.

I send you to-day a sample of sourwood honey. Examine it and let us know what you think of its quality. I get more of it than of any other kind. I took about 800 lb. last year from the poplar, and something more than 1,200 from the sourwood, all extracted. I had only 28 colonies last spring, and now have 98, but 3 of these I bought. All are in good fix and carrying in rye flour pollen every day. If the warm weather continues, they will bring in natural pollen by the middle of the month. I examined several colonies day before yesterday, and found plenty of sealed brood. This is earlier than I ever noticed it before. I hope to come up with a big honey report for 1880; at least, every thing looks favorable at this time, but I can tell better in the spring.

Now, Mr. Novice, nearly all of you bee men up North say that all pure honey will candy in cold weather; and I want you to keep the sample. I send you through the winter, and report if cold weather candies it. I know you have colder weather than we have down here, but I don't believe it will get cold enough to candy sourwood honey.

J. F. MONTGOMERY.

Lincoln, Tenn., Jan. 5, 1880.

Thanks, friend M. You will see by the A B C, that I do not claim that *all* pure honey will candy. If sourwood honey never candies, it will be a great point in its favor, and I would pay a good price for a barrel of it now, just on account of this one peculiarity. The sample is at hand, and, although it is not as light as our clover and basswood, the color is fair, and the flavor is beautiful. Its aroma is delightful, and has a suggestion of timber and forest trees. I want at least 100 lb. of just such honey.

ITALIANS ROBBING THE BLACKS.

I begun last spring, with 2 colonies,—one Italian and one black. My black colony increased to 4, and my Italian to 2. The season was extremely dry, therefore my bees made no surplus, but I think they probably have enough for winter. For the past 6 days, bees have been on the wing all the while. My Italians are tolerably roguish. It seems as though they will just completely wipe out my blacks, in spite of all I can do. I have tried everything I can think of, and nothing but closing the entrance will stop them. Now, friend Root, if there are any means by which to prevent their robbing, except by closing the entrance, I certainly will receive the information with the greatest of pleasure.

I think, friend B., your robbing troubles are not the fault of either the Italians or the blacks, but mostly the fault, if it may be called a fault, of the inexperience of their owner. Somewhere among your 3 new swarms of blacks, I think there must be a queenless one, and you yourself give the reason why the Italians discovered it first,—because they start out earlier and with more energy than the blacks. After they had got a taste from this one poorly protected hive, they would be sure to “pester” the others. See that the hives all have good queens, contract the entrances, and make them defend themselves by the ways I have so often given.

DO BEES ROB BECAUSE THEY LACK STORES?

It certainly can't be for the want of plenty of stores, for I am satisfied that they have at least 50 lbs. each. I intend to Italianize next season. I did intend to do so last season, but wanted to try an experiment. I had heard so much in regard to Italians and blacks, I thought I would give them a trial. I have found the Italians to be far superior. They work later and earlier, and, during the drouth here, they were at work while the blacks were dormant. I could not see where the Italians could get any honey, unless from some neighbors' hives of black bees.

B. C. BALLOW.

Owaneco, Christian Co., Ill., Jan. 8, 1880.

Many uninitiated persons have insisted, that, when bees are always robbing, it must be because they have not feed enough, and are lacking in stores. A friend once so strongly argued this that I threw flour on the robbers, and took him to the hive where they were rushing out and in with their loads. The hive, when opened, was found literally crammed with honey, and was probably the heaviest in the whole apiary.

SHIPPING BEES IN THE WINTER, ETC.

The enclosed card I found on one of your chaff hives containing live bees, at my front door, Jan. 3d, 1880. I write to let you know that they are all right, and that I could find yellow bees working on flowers all day Sunday. The weather has been like spring here, since Dec. 7th.

J. B. PIERCE.

Richmond, Va., Jan. 6, 1880.

And this was what was on the card.

J. B. Pierce, Esq.:—Compliments of Friends.

“A New Year's Gift.”

Your friends must be of the substantial kind, friend P. I am very glad to hear that the bees arrived safely, and proceeded forthwith to “improve the shining hour.”

CARRYING IN FLOUR IN JANUARY.

My bees are all alive yet, and have been flying for the last 7 days. They have also been carrying in flour for the last 3 days, fairly swarming on it. I have 22 stands, all strong and healthy. I fed them, during Oct. and Nov., 120 lb. coffee A sugar made into syrup, and 5 gallons of extracted honey.

Although the weather here has been quite warm for two weeks past, we have had no

days suitable for feeding meal. The advisability of feeding meal in the winter months has sometimes been questioned. Will you please report, friend H., how your bees come out in the spring.

BLASTED HOPES.

Last fall, the bee business became as “dead as a door-nail.” At one sale in the country, bees brought from one to two dollars per colony, box hives and Langstroth the same. At another place, they never received a bid at all, and they are now offered at \$2.25 a stand, and warranted to live until spring; these are in box hives. A good many colonies of bees near town are already dead,—starved, just as I predicted last July they would be. The owners let them get robbed out, and now they are bankrupt in the bee-business, and will quit in disgust. Others talk of buying bees in the spring, and will probably follow in their foot-steps.

ROBBING THE NEIGHBORS' BEES.

Three of my stands are robbing somebody's bees now. I cannot find out where they go. The loser will probably find it out, if the weather remains warm a few days longer, and may lose his bees in the bargain. What is one's loss is somebody's gain. So goes the world. I don't care as long as mine are on the winning side.

Geo. L. HOLLENBACH.

Noblesville, Ind., Jan. 8, 1880.

One might almost think, friend H., that you did not believe in doing as you would be done by. I should find out where those bees go, and for my neighbor's interest, if for nothing more, help him to stop the robbing. It is true, that, to a certain extent, it is the business of every one who owns bees to see that they are not being robbed, and he who is careless and indifferent must expect to lose.

CORRECTION IN REGARD TO BAKER'S DIVISION BOARD.

I would like to make a few remarks in addition to yours, given in Jan. No. of GLEANINGS, upon the construction, etc., of my division board.

First, as a correction, I would say, cut your boards 1 3/4 in. shorter than the hive is wide. The 1/2 x 3/4 in. cleats, when placed in their respective grooves, add 3/4 of an inch. The whole will then be 1/2 inch shorter than the hive is wide, and, if now hung in the hive, 1/4 in. space would occur between each end cleat and the walls of the hive. To fill this vacancy, strips 1 3/4 in. wide, cut from table oil-cloth such as is found in most stores, are tacked against the cleats, in a sort of semicircle. To make it plainer, lay the board on its side, and the oil-cloth strip on the cleat with its edge against the shoulder of the board; tack along, as shown in the engraving; bend it around and tack likewise on the opposite side. Have the enameled side of the cloth out, of course. Let me say to those wanting something cheaper than a chaff division board, try it. I am sure it will please you. If you have no machinery, friend Root can probably furnish them cheaper than you can make them yourselves. If you are getting a lot of hives cut at a factory, you can get these boards cut at small cost; it would, however, be well to obtain a sample division board; then you would be sure to get them all right, and no mistake.

D. B. BAKER.

Rollersville, O., Jan., 1880.

HOW FRIEND KENDIG GETS A BIG CROP OF HONEY DURING A POOR SEASON.

I have been much interested in the reports seen in GLEANINGS from time to time, from my brother bee-keepers, and therefore think it might interest some one to hear from me. In '78, I put into the cellar 105 stocks, which all came out safe, except one queenless one. I had no spring dwindling. When the bees were taken out, I contracted the brood nests, and put chaff partitions on each side, and 3 in. chaff cushions on top.

STRONG STOCKS TO GET THE HONEY.

I could not get my stocks all strong by the middle of June, when the honey harvest opened, so I then doubled up till they were brought down to 75, making about 18 nuclei of the surplus queens. About the middle of July, surplus stopped. I had only one

good day in basswood. The swarm on the scales gained 16½ lb. that day. It reached 13¼ lb. in white clover. I took 6000 lb. surplus, all extracted except 200 lb., and had to feed back, in the fall, 1 00 lb. to make them good for winter. I superseded about half of my queens, and put into the cellar, last fall, 108 stocks.

HOW TO MAKE FULL SHEETS OF FOUNDATION WITH A LITTLE WAX.

I have one of your 9 in. fdn. machines, and it works well. I discovered a little simple thing which is of use to me, and may also be to some other one-horse fdn.-maker like myself. To work small lots of wax, or to work all your wax up at the end of the season, pour water into your dipping tank until your wax is high enough, or fill up with water till your wax is all dipped out.

C. KENDIG.

Naperville, Ill., Jan. 12, 1880.

THE RED RASPBERRY AS A HONEY PLANT.

In looking over your price list, I see mentioned in the list of honey plants, "red raspberries, 75c. per doz., or \$3.00 per hundred." Now, I desire to say to you that I have cultivated raspberries for years, and have it in my power, if I live, to furnish large quantities of the red. I would be very glad to send you one, two, five, or ten thousand of them, as soon as spring opens. Now, if you can manage to find me a market I would be very thankful, and consider it a real *God-send* to me, as much as your aid is to those young men whom you have helped so much. I will ship them in quantities, for \$1.00 per hundred, or even less. Will you aid me in this?

B. COGSWELL.

Silvira, Pa., Jan. 12, 1880.

As a general thing, I do not believe in giving free advertisements, but friend C's. offer is so extremely liberal, that giving the letter, I think, will be a favor not only to him but also to the friends who want to try the raspberries.

FROM AN A B C SCHOLAR.

I am one of your A B C scholars. I believe, after all, I am a little too fast in saying that, for I gave one of N. C. Mitchell's agents \$5.00 to get my "eyes opened" in the "bee business," and an individual right to use his patented adjustable hive. I used a few of the hives two years, and got enough of them.

I commenced keeping bees in the spring of 1-77, and have increased and bought until now I have 52 colonies. During the winter of '77 and '78, I lost none; but last winter I lost 7 out of 47. I was Italianizing in August, and kept some of my stocks queenless too long, and they got too weak. Last summer, from the 40 I had left, I increased 15, and got about 200 lb. of honey. I have all my hives sitting on blocks, only 3 to 6 in. from the ground, and leave them on summer stands all winter. My hives are all double walled, and two stories high, except 9. I fill the vacant space in the double hives with fine planings and sawdust, and, in the winter, I put a cushion in the upper story, large enough to fill it up.

LEAVES VERSUS CHAFF.

I make cushions out of carpet wrappers (something similar to coffee sacks, only they are larger and cheaper; I get them for 75 c. per doz.), and fill them with leaves that I rake together in the woods, in the fall. I think leaves are the lightest, cleanest, cheapest, and best thing I can get for filling cushions. By the way, there is nothing better for putting away sweet potatoes to keep them over winter for seed. I suppose you have noticed that the ground never freezes in the woods, where it is covered a few inches with leaves.

I have tried oil-cloth (enameled cloth you may call it) for covering over frames, and am done with it. I have opened hives when it was very cold, and found the lower side of the cloth all covered with ice. It is entirely too close; we want something more porous. I like your wood mats very much, but think they would be better if you would use fine copper wire (telephone wire) instead of twine. My bees have eaten some of the twine in two all ready.

JOHN M. GILMORE.

Wilmot, Stark Co., O., Jan. 19, 1880.

I presume leaves will answer just as well as chaff, if you find it handier to get them. It seems to me that copper wire will be more

expensive, but I may be mistaken. Will it be pliable, so as to allow the mat to lie down flat as the twine does? I have never known the bees to bite off the twine.

A WORD IN DEFENSE OF FRIEND ALLEY.

Brother Root:—There is so much said about friend Alley of late, that I feel like saying something in his defense. I have been dealing with him for about 10 years, and have had over 25 queens from him, and I cannot recollect that I ever had but one that raised hybrid workers. In 1876, I had 15 queens from him; 12 of them were dollar queens, sent in Sept., on credit. The fall was very dry, and forage scarce, and I lost about half of them in introducing. I told him of my losses, but did not ask him to replace them, as it was not his fault. It was some time in Nov. before I got the money for him, and a day or two after I mailed it I received a very friendly letter from him, stating that he was short of funds, and that he had sold quite a number of queens on credit, and feared a good many were not going to pay him at all, and that, if I would send the \$12 he would send me 3 queens as a present the next July, if I would remind him of it. He did send 3. I got 2 of them safely introduced, and raised over 30 queens from them, which were all much lighter colored than their mothers, with one exception, and she was about as light. Those that were purely fertilized have raised about as nice bees as I ever saw.

O'Fallon, Ills., Jan. 17, 1880.

C. T. SMITH.

That is good, friend S., and it really looks as if friend Alley had been too liberal. Now that he is in trouble, friend S., do not you think you should send him the pay for those three queens he gave you extra? Cannot we all give him a little lift in the same way, since he is trying so hard to fix things all up satisfactorily?

THE DECIMAL SYSTEM OF WEIGHTS, MEASURES, ETC.

I see in your last GLEANINGS, under "Useful Articles for a Little Money," that you have discarded dozens and gross, and adopted the decimal system, for which I give you great credit, and wish there were more such men as you in our world. If there were, we would not have to spend so much valuable time in learning a lot of useless arithmetical tables. I wish our governments would do away with all such useless tables, and substitute in their stead the decimal system. I have been advocating through our public newspapers here, a change in weights; thus:

10 Grains	make	1 Scruple
10 Scruples	"	1 Dram
10 Drams	"	1 Ounce
10 Ounces	"	1 Pound
10 Pounds	"	1 Stone
10 Stones	"	1 Hundred
10 Hundreds	"	1 Ton

Now, Mr. Root, how nice it would be to retail honey or other articles by such weights! 10 cents per lb. would just be 1 cent per oz., or 12 cents per lb. would be 12 mills per oz., etc. Some may say it would cost too much to have all the weighing scales changed; but they need not all be changed,—only those under one pound. You see I would take the present pound for a standard to begin with. I might say a great deal more in favor of this change, but space in such a paper as yours is very valuable.

Newry Station, Ont., Can., Jan. 15, '80. R. FORREST.

Thanks, friend F. Although I see the advantage of the system as much or more than I ever did before, I confess to being pretty nearly scared out of it already. The very goods I mentioned are put up in dozens and gross, and the packing boxes for all are made to hold just 1 or 3 dozen as the case may be, and to attempt to pull them all to pieces to fill a little order was more work than the profits amounted to. Goods we manufacture could be very well put up in tens and hundreds, and perhaps, in this way, the reform may gradually be brought about. In retailing sections of honey, it is such a bother to figure the odd ounces, I am almost always tempted to throw them in.

WOOL FOR CUSHIONS.

Thinking that a cushion exactly like the one on p. 495, December GLEANINGS, with a little wool of cheap grade, properly cleansed, carded a little by hand, and spread evenly over the bottom, and a little upon the sides before the chaff is put in, might be—oh? a little different—might give a healthy ventilation, if not packed too tightly, might keep 'em as "warm as wool," might fool 'em some when they're trying to "look a little out," and might be slow to sift out on first invitation,—but I can't test it, as I have no bees now, so I pass the cushion to you.

BEES BY THE POUND.

I expect to buy a good many bees in early spring by the pound. Won't you give us, in GLEANINGS, your experience "*by the pound*," with variations and recommendations? It's your bantling, I believe.

H. MÜNGER.

514 N. 24th st., Omaha, Neb., Dec. 31, 1879.

The use of wool for keeping bees warm is an old idea; but, while it keeps the bees nice and warm, it does not dry out with readiness and facility as chaff does. Somebody has recently suggested sheepskins with the wool on. I think they will be excellent, if one can afford them. We should be careful that the wool is not where the bees can get at it readily, or they will get tangled and twisted up in it in a way that will cause the death of many of the poor little fellows. I had some sad experience in this line in trying to use it one season for contracting the entrance to the house apiary. Bees by the lb. has already become quite an industry. All we need is a little more experience in preparing them for shipment.

CAN A QUEEN FEED HERSELF?

It has been my opinion for several years, that a queen can not feed herself. Some claim they have seen them feed themselves, but I think they only saw her try to do so, or go through a maneuver that resembled eating. If she could feed herself, would not her condition always be the same? I think that the bees feed her a substance to bring her body into a condition such that she will lay worker or drone eggs as they desire. I don't believe in the compression or non-compression theory. We know that if all drone comb be taken out of a hive, the bees will build out worker cells and raise drones in them. If compression has anything to do with it, the queen could not lay a drone egg in them. Will you or some one else please explain? If you think the above will cause all the bee men to jump on me, "all spread out," as some do when others advance an idea adverse to their own, don't publish it, for I am too rough in a controversy and don't want any. To get drones early, feed liberally and crowd with division boards.

M. L. WILLIAMS.

Vanceburg, Ky., Dec. 15, 1879.

But queens do feed themselves, friend W., for we often put them in a cage without any bees at all, and they eat like "other folks." The compression theory of Mr. Wagner has been dropped, partially at least, for many years; and the only theory I know of now is that the queen lays drone eggs, or eggs in drone cells, when she thinks they will be needed. It is true, the bees and queen seem to agree quite well in this matter, and very likely, they have some kind of an understanding, even if they do not hold a council and talk the thing over. Are you not a little hard on your friends, friend W.? I hardly think the readers of GLEANINGS are in the habit of being very uncharitable, even if some of us do get queer notions now and then.

THE HONEY OF THE SOUTH.

I wish to correct a former statement of mine, which I supposed, at the time, to be true. I classed the honey which we call here white honey, as "first-class, white honey," and thought it about as light, or

lighter, than yours which I saw in 1875. Judging from the sample received from you, mine will rank as No. 2.

WIRED FRAMES FOR FOUNDATION.

I also said my combs of fdn. broke down about 3 inches below the top bar of the frame. I had no frame near me at the time, and I find, since then, that 1½ to 2 inches would be more nearly correct for most of the broken combs. From my experience here, I would add two more wires to the frame you describe—one at each end, and not more than ¾ from the end bar, to prevent fdn. from curling out to the edge of the end bar, as many sheets here do, and, unless very closely watched, make that much of an imperfect comb.

C. R. CARLIN.

Shreveport, La., Dec. 31, 1879.

There is much difference in the color of both white-clover and basswood honey here. Some seasons will furnish much whiter honey than others, and we occasionally find samples almost as clear as water; but the candying process very soon makes it look cloudy, unless we chance to get some that won't candy, like that I have mentioned in the A B C. We obviate the necessity of the additional wires you speak of, by cutting the sheets of fdn. full size and pressing the ends against the end bars, so as to stick them slightly. We have sometimes caught the edges at intervals with a drop or two of melted wax. We have found this plan rather cheaper and less troublesome than the two additional wires.

AN A B C SCHOLAR IN TROUBLE.

I have got only to A in the beginners' class, and have "stuck fast." Unless you or some brother bee-keeper help me, I am surely destined for Blasted Hopes, while you shake your head sidewise, go in the Smilery, and say, "Too slow."

TRANSFERRING IN DECEMBER.

I begged two small swarms of bees the 4th of Dec., brought them home (about three miles) and transferred the next day—one from a half-barrel, and the other from a box-hive, into a hive 12 x 12 x 20, with a space above the frames for a chaff cushion about six inches deep. Frames are 11½ x 11½, and have cushions about two inches thick at each end. The next day, they cleaned up their combs nicely, but they had been robbed of most of their honey during the fall. I found only about 3 lb. in both hives. I fixed it in the frames as nicely as I could, the honey at the upper end of frames, and empty comb below. This is as far as I can go without help. Now, do they want sugar, honey, or candy? Can I feed any day they fly, or must they die anyway, with help or without? I found but little pollen in either hive.

WM. K. HOKNER.

Denton, Wayne Co., Mich., Dec. 12, 1879.

I do not see that you are "stuck" very badly, friend H. All you have to do is to feed your stocks with candy, as directed on page 487, December No. There is no trouble at all in transferring in December, or any other month in the year, when there are only 3 lb. of honey in the hive. Take good care of your two, and don't let them die, and in the spring tell us about it.

BUCKWHEAT IN NORTHERN LOCALITIES.

Editor Gleanings:—Buckwheat has been regarded with considerable disfavor among our farmers here, and very little is sown on account of its alleged liability to blight in some seasons. I induced some of them, however, to sow a little this past season, and as they had very fair crops, others will sow it next season. I am very anxious to know just the best date on which to sow it in our latitude, also the exact quantity which should be sown per acre, to give the very best results for a crop; for, unless our farmers get a good, fair yield, they will soon stop sowing it, even if given the seed for nothing, as I am doing with them. Will Prof. Cook kindly give directions about "buckwheat management" for our locality?

GEORGE O. GOODHUE.

Danville, P. Q., Ca., Jan. 2, 1880.

Notes and Queries.

THE SIMPSON HONEY PLANT: IT HAS MEDICINAL QUALITIES.

FRIEND ROOT, you have a great deal to say about the Simpson honey plant; I will say my speech about it also. It is a sure and quick cure for the cholera-morbus. Just make a strong tea of the leaves or root, and drink freely.

Pimento, Ind., Jan. 10, 1880.

J. S. BROWN.

GOOD FOR CANADA AGAIN.

My experience is something like this: I have secured from single hives, that I kept from swarming, 3000 lb. of extracted honey in a single season, and 10,000 lb. from 100 hives in a single season. I have not tested the Italians by experience, at least only partially. What I did in Italian trade was mostly hybrids.

JAMES MOFFETT, JR.

Riceville, Ont., Can., Dec. 16, 1879.

FUEL FOR SMOKERS, ETC.

I use cobs, chopped up, along with dry, rotten wood, and like it better than wood alone. I keep them both in a drawer in my stool, which I carry with me to the hives that I am opening. My bees have lost much in numbers already. The weather was so warm yesterday and the day before, that the bees were flying, and I opened a hive each day and put in division boards.

J. S. WILLARD.

Hopkins, Nodaway Co., Mo., Jan. 2, 1880.

HOW TO SOW THE AMBER SUGAR CANE.

[The following is in reply to an inquiry of ours, in regard to planting the new sugar cane.]

Sow the amber cane in drills 4 ft. apart, 4 lb. to the acre, and thin out to 8 or 10 inches.

A. C. KENDEL, of the Cleveland Seed Store.

Jan. 3, 1880.

The one pound boxes which you sent me sometime ago came through all right, and I was very well pleased with them. I put them in the hives, and it was no time at all until the bees had them full of honey. I take pleasure in recommending your boxes to every one that comes to see me.

WILLIAM M. TRIMBLE.

Washington, Ill., Jan. 2, 1880.

DOES IT PAY TO RAISE QUEENS?

Bees have done very poor work here this year, on account of the drouth. I had to feed about 2 barrels of white sugar in preparing for winter, but my 115 hives are in splendid condition at present. I sold queens enough to pay for feeding my bees, and have a fine lot for spring market.

J. E. WALCHER.

Millersville, Ill., Dec. 26, 1879.

HONEY DEW FROM THE OAK AGAIN.

Last fall, I saw the bees at work on an oak tree, just as J. B. Cline describes in Dec. No. page 479. It was a red oak tree. The bees were all over the tree, on the leaves.

T. J. YOUNG.

Austin, Lonoke Co., Ark., Dec. 7, 1879.

I am one of your A B C class.

COARSER WIRE CLOTH FOR EXTRACTORS.

Would not wire cloth with only 2 or 3 meshes to the inch be better than finer, for use in extractors? If not, why?

[With coarser wire cloth, the tendency of the comb to sink into the meshes is greater, and the bees are thus occasioned much labor in repairing the cells.]

"IS THE SPIDER PLANT OR SIMPSON PLANT A BAD WEED?"

[Neither of the plants mentioned can become a bad weed, so far as I can see, for they both require a good deal of coaxing to get them started. They will compare fairly with the tomato and turnip in hardness. Should you ever call these bad weeds?]

CAN THE SEVEN-TOP TURNIP BE MADE TO BLOOM THE SAME SEASON?

If the seven-top turnip seeds be planted in a hot-house, by the first of March, will they bloom this year, and do well?

[I do not know whether seven-top turnip can be

made to blossom the first season or not. In last Oct., I had some beautiful stalks of blossoms covered with bees, but, as I had sown both rape and seven-top turnip on the same ground, during the season, I could not tell which it was. Perhaps I am awkward, but I really cannot tell rape from seven-top turnip, either in seed, foliage, or blossoms. I only know this: the rape blossoms at once, as soon as it comes up, and the turnip seldom, if ever, blossoms until the next season. I am inclined to think it was the rape that was in bloom in Oct. Please try the experiment you mention, friend H., and report; then we will know.]

PACKING CHAFF CUSHIONS.

Do you pack the chaff very hard in the cushions? and how thick do you make them?

[We do not pack the chaff in the cushions, but leave it rather loose. They should nearly fill the upper story of the hive, and this would make them about 10 in. thick.]

I bought my first two swarms of bees 2 years ago last 4th of July, and have bought some since. I now have 50 fair swarms in very nice order.

FRIEND HARRINGTON'S HOUSE APIARY.

They are in my bee-house, which I made myself, and it cost me, all complete, about \$200. I can let my bees fly any time when it is warm enough. Last Christmas, mercury went down to 22° below zero outside, and only 4° below the freezing point in the bee-house, a difference of 50 degrees. I can examine my bees as easily in the winter, as in the summer. My bees all had a good fly a few days ago.

York Centre, Ia., Jan. 9, '80. M. W. HARRINGTON.

GOOD FOR THE HYBRIDS.

I had one swarm which made 126 lb. of honey last season. It was a young swarm of hybrids, with 2 bands. I put it in the hive the 23d of June.

INTRODUCING TIME AT SWARMING TIME.

When bees are swarming, if I get the old queen, can I put an Italian in its place with safety?

North Lake, Wis., Dec. 26, '79.

L. S. SOULES.

[Generally, friend S. When bees are swarming is an excellent time to introduce queens, and we can almost always let them loose safely, without any caging at all.]

WHERE DID THE BEES GO?

A large colony left a box hive the last of October; when opened, it was full of comb in perfect order, and full of honey. I cannot give or see any reason for it.

Nelles Corners, Can., Jan. 21, 1880.

[Nor can I, friend —, as you state it; but, if I could look over the hive, I think I could find a reason.]

CHAFF PACKING EVEN FOR MILD WINTERS.

One colony gone; not packed. Eight chaff packed are in excellent condition. Queens are laying. Weather, wet and warm for 2 weeks.

Neoga, Ill., Jan. 12, 1880.

J. B. MCCORMICK.

THE CARTOONS, ETC.

I received Jan. No. of GLEANINGS, but -- where is the cartoon? Give us all the pictures you can, but don't stop the cartoons. Always have them in the same part of the book, so I can find it the first thing; say just after "Blasted Hopes," so we would soon feel better after reading the worst side of bee-keeping. Now don't put me in the "Growlery."

Wyandott, Kan., Jan. 15, '80. JAS. A. NELSON.

[Why, you see, friend N., I consider the wishes of my readers as a kind of barometric gauge to indicate to me what departments I shall develop, and what restrain, in a wholesome way of course. Well, somebody wrote a while ago, that he thought the space occupied with the cartoons would better be occupied otherwise, and so I dropped it one month to see if anybody complained. You have, and so we will start them up again. Bear in mind, I am watching nervously almost every letter that comes, to see what departments are in favor and which are not. If a department grows and develops, it is your doing; if it dies out, it is your doing, too, in a measure.]

CAN AN IMPORTED QUEEN'S DAUGHTER PRODUCE ANY BEES ALL BLACK?

I still cannot see how a pure Italian queen can raise bees entirely black, if she did meet a black drone; I don't mean a whole colony entirely black,

but part of them. I cannot think a young queen, raised from a pure, imported mother, can raise any black bees, regardless of what kind of drone she has met with. Yours in Charity, AMOS BLANK.

Woodville, O., Jan. 20, 1880.

[Still a little more charity, friend B. As a general rule, the bees from the daughter of a pure queen all show more or less yellow bands, even if the daughter has mated with a black drone; but, now and then, we find queens whose progeny seems half pure Italians, well marked, and the other half, pure blacks. The same thing is often observed in crosses of fowls and other domestic animals. This is an old question.]

I have got so stuck up with grape sugar that I have not been able to extricate my hands to write for you to send the GLEANINGS for another year. I hope to learn enough more so as to get this barrel down my starving bees. I would also like to get the A B C when you publish a new edition, containing revised description of the bee feed (the latest). Perhaps I shall learn something yet about it by experience, but have not got through the "slough of despond" as yet. A. D. GRISWOLD.

Southport, Chemung Co., N. Y., Jan. 3, 1880.

[Friend G., you want to teach some handy girl to handle the sugar, and then all you will have to do will be to carry the dry candy around to the hives, and see them get full of brood under its influence, as ours are doing now. Will was just saying our bees have increased in numbers at least $\frac{1}{2}$, since they were packed in Nov. New editions of the A B C are going out all the time, and new matter is being almost daily added to it.]

WINTERING ON CANDY ALONE.

Will a good strong stock of bees subsist altogether on candy, made from white crushed sugar, with a proportion of wheat flour? and what quantity would it require to winter such a stock?

[You can winter bees on the candy alone, if you give them only small pieces, say not over a lb., at a time, and have it so well protected that they can keep it warm even during severe weather. The quantity required is quite variable, owing to weather, amount of brood reared, and size of the colony. It may be all the way from 5 to 20 lb.; perhaps 10 lb. on an average.]

OAT HULLS FOR WINTER PACKING.

Will a double hive filled with oat hulls, 2 in. all around do for wintering on summer stands, when bees are fed with the above mentioned candy?

[Oat hulls may answer, but they are too hard and cold to be as good as chaff. Two inches is too thin, even with the best of chaff; better have 4 or even 6 inches at the sides, and 8 or 10 above them.]

I had 14 stocks in the fall, but reduced the number to 9 by uniting. So far, they are doing splendidly. Last season was good for honey. There was a great yield of basswood. In one week, I extracted from 5 stocks 110 lb. All my honey found ready sale at 15c. per lb., and I could have sold as much more if I had had it. The cold blast smoker I bought of you works like a charm. I don't see how bee-keepers can get along without them, and, at the price you sell them, I don't see why some people will destroy their lungs, blowing smoke from a piece of rotten wood.

WILLIAM VICKERS.

Fergus, Ont., Co. Wellington, Can., Jan. 21, 1880.

KEEPING A CASH BALANCE FOR PURCHASES.

Will you allow me to forward you, at one time, as much as \$10., and you place the same to my credit, and allow me to order such goods as I may need, and at such times as I may need them, and thus save so many registrations? I think, if all of your customers would do this, it would be a considerable saving to them, if it is not too much trouble to you. I will pay all freight and express charges, and you pay all postage. GEO. B. DEAN.

Bennett, Tex., Jan. 17, 1880.

[I will do it with pleasure, friend D.; and, since you mention it, I would remark that quite a number of the friends have been doing so, for a year or two back. That you may not lose the use of the money, I will add this: For some time I have been paying our hands interest on their spare cash, in order to encourage in them habits of saving. Our book-keeper foots up the interest monthly, at 8 per cent, and adds it to their deposit. I will do the same with

you, and give you a statement each month on a postal, the money, of course, always being subject to your demand.]

WHAT TO DO WITH BOX HIVES THAT ARE SHORT OF STORES IN WINTER.

I recently bought, at a neighbor's two miles away, 9 stands of bees, hybrids, in old box hives. A few of the colonies are well supplied with honey, but most of them are small and scantily furnished. How shall I move them home? and how shall I feed them until the honey season? The weather is very mild for winter, and they are consuming stores very fast.

Midway, Ky., Jan. 17, 1880.

E. A. BAGBY.

[Move the bees right away, if the ground is soft, or if there is snow, so they will not be bumped about too much. In cold weather, you can fasten them in by putting a cloth over the entrance, if wire cloth is not handy. Set them on plenty of straw, and drive slowly. Put them where they are to stand, and feed them candy, as I have directed so many times in the back Nos., and in the A B C. Turn the hives over the first day it is warm enough for them to fly, and see how much stores they have, and be sure they do not starve. If there are no holes in the top of the hive to permit you to lay candy over the cluster of bees, cut out a part of the top, driving the bees away with smoke. When you get the candy fixed among them, cover it with a chaff cushion warm and tight, with a tight box over the chaff to keep all dry.]

A CHEAP WAY OF FIXING LEAKY ROOFS.

Before I received the Jan. No. of GLEANINGS, in which you make so fair an offer about the leaky roofs of the $1\frac{1}{2}$ story hives, I had repaired half of mine by covering with heavy muslin, and painting it heavily, and will fix all of them the same way; I will, therefore, if satisfactory to you, take the following goods for the \$5. which you place to my credit. And right here let me remark that you are the first man who ever voluntarily offered to return me \$5. on a bill of goods because they were defective.

FLAT BOTTOMED FOUNDATION.

I should like to see a sample of your thin fdn. for sections, when it is ready. I tried the thin, flat bottomed fdn., last season, but cannot say that I am entirely satisfied with it. M. FRANK TABER.

Salem, O., Jan. 9, 1880.

EXTRACTING THE UNSEALED HONEY FOR WINTER.

As this has been a beautiful day, I took a peep at our bees in the cellar. They are all right, except two, which show unmistakable signs of dysentery. I carried one out doors. They covered 6 frames 11x13, and 4 frames contained brood in all stages. These two hives were not extracted from last fall, and I look for more of them to have dysentery; in fact, all that went into the cellar with uncapped honey. HARRY BLACKBURN.

Webberville, Ingham Co., Mich., Jan. 17, 1880.

[By reference to friend B's remarks on page 479, Dec. No., you will see that he extracted the unsealed honey from only about half of his 130 colonies. With this very open and mild winter, it seems, from his report, that the unsealed honey has not proven very wholesome.]

THE FIRST REPORT OF THE BEE MALADY.

Bees in this vicinity did no good last year. In some places, they did not make enough honey for their own consumption, while some stands made a little surplus. Mine are dying fast. I lost 6 stands in less than 3 weeks, with plenty of nice, sealed honey, and bee-bread. Very astonishing indeed! Two stands were very strong and pert on Saturday, and, on Monday following, they were dead, and bees were flying every day, at that. From the 2 hives, I then extracted 5 gal. of nice, thick honey. Strange it is, indeed, to me. I only had 19 stands last fall.

Arcola, Ill., Jan. 9, 1880.

JOHN KAUFFMAN.

[It is indeed strange, friend K., that the bees should die so suddenly when they had just been flying out. Are you sure they did not swarm out, and go off, or into some other hive? Were there good queens in the hives, and eggs and larvae, at the time of their leaving? If, by any mistake, they were queenless, I should call it no mystery at all, but only the old bees suddenly dying off. I should hate to hear that the "dwindling" had commenced thus early, and with such severity as your report indicates. Here is another of the same kind after all.]

Three of my colonies have died, one of them leaving considerable honey. They did not freeze. I would like to know what was the matter with them.
Vigo, Ross Co., O., Jan. 21, '80. JOHN MOTES.

"MONEY IN THE HOME PAPERS."

I think you would better continue the "Home Papers." There is money in them. They remind me of a good old Methodist brother who spoke in class thus: "I am just as sure that I have got religion, as I am that there is sugar in Audubon; and that I know to a certainty, as I yesterday got 3 bbl. which I will sell cheaper than any other man in town."

[Many thanks, friend "\$," for reminding me to be careful that selfishness does not crop out even in the Home Papers. But why did you not sign your name? I cannot find even a post-mark on your postal; is it possible you were so afraid you might be discovered that you got the P. M. to skip it? You need not be afraid to stand up before us all, and tell me right out, when you think me in error; I am pretty sure I shall not get mad, or hold any "grudge" against you. By the way, could that brother be a very good Methodist, and say he "would sell cheaper than any other man in town?" What do the boys think about it?]

DEPOSITORY OF

Blasted Hopes.

Or Letters from Those Who Have Made Bee Culture a Failure.

IT appears that you have some trouble in getting Blasted Hopes filled up, for want of reports. I will give you an item. In the spring of 1879, I had over 100 colonies in fine trim, with an immense amount of bees; but on going into winter quarters I had but about 50 colonies—poor ones at that, with no honey and scarcely any bees. I had to feed all my bees, and thus far all are right that were properly fed. I fear, however, that I shall find trouble in the spring. If I come through with 25 colonies I shall feel well satisfied. I have traveled over a large portion of Illinois, and I find that at least three-fourths of the bees are dead from starvation.
Pana, Ill., Jan. 5, 1880. A. L. KLEAR.

I am a young beginner, and have not been able to get along with the bees. I have had bad luck with them all the time; they either fly away or die.
LOUIS WERNER.

Edwardsville, Madison Co., Ill.

From 47 hives, I only got 100 lb. of box honey.

A. ROBB.

Patoka, Gibson Co., Ind., Dec. 12, 1879.

BUCKWHEAT NOT ALWAYS A HONEY PLANT.

We have no honey here this fall. I had 5 acres in buckwheat, but the bees wouldn't look at it. I had to feed in the fall.
Baker City, Baker Co., Ore., Dec. 18, 1879. GEO. EBELL.

Humbugs & Swindles,

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

MRS. LIZZIE COTTON must be prospering in spite of the many times she has been held up to public gaze. She has got out a larger circular than ever be-

fore, containing a lot of testimonials to her honesty and truthfulness but "never a name" is appended to one of them. The price of a sample hive, not a full sized hive, mind you, only a small model, is \$6.00, but as she cannot make money enough at this, she comes out now with the following (it is free advertising I know, but I can't help it):

At the earnest request of many residing at a distance, who wish to obtain my improvements, but have been hindered from doing so, (they not wishing to incur the heavy express charges for transporting sample hive and fixtures,) I have now secured the services of the most skillful artists in the United States, and have prepared elaborate and very minute drawings and illustrations of the controllable hive and all fixtures, giving exact measurements and specifications of every part, so that any carpenter, with these, can construct the controllable hive and all the fixtures.

By this arrangement all who desire can now secure the benefit of my invention at a small cost.

Drawings and illustrations, with printed directions for managing bees on my plan, with receipt for feed, everything so plain as to be readily understood, all sent by mail, to any part of the United States or Canada on receipt of four dollars.

Now, Mrs. C., your printed instructions may be awfully cheap, at \$4.00, but you promised that wonderful book that would tell every thing about bees for only \$1.00, a few years ago; now, it isn't a book at all, but just "printed instructions," and you want four dollars. O dear, O dear! how I do want that book—or my precious dollar back again. If some one who can make Mrs. C. "send things" after she has got the money will get me a copy of that "directions," elaborate drawings and all, I will have them printed in GLEANINGS, and then it won't cost anybody any "dollars" at all.

N. C. MITCHELL.

Mr. Mitchell has made an inroad on some of our citizens, with his patent division board and hive, and promising to furnish an extractor for a very small sum; but in no case have I heard of any of his patrons getting their extractors. J. P. HOLLOWAY.
Monclova, Lucas Co., O., Jan. 20, 1880.

Mitchell's men have made their appearance in our place here. Can they hurt us for using division boards and triangular comb-guides? Please let us know in next GLEANINGS. They claim a patent right on the above-mentioned articles.

JACOB STOLTZFUS.

Lewisburg, Union Co., Pa., Dec. 24, 1879.

I have said so many times during the past years that their false claims of a patent on division boards and comb guides was only another kind of highway robbery, that I guess I will make a little extract from the *American Agriculturist* in regard to such matters:

THERE IS MUCH FRAUD ABOUT PATENTS.

Some scoundrels make it a business to go about the country, claiming a royalty upon things not patented by them or by any one else. The farmer fears that he must either pay the sum demanded or stand a lawsuit. But do not be frightened. Farmers in this country have rights as well as patentees. In such cases, go slow. One claiming to have a patent knows himself whether he is a fraud or an honest man. If his claim is a just one, he will feel confidence in it; he will not threaten or try to bully. He will know that he has the law on his side, will know that the farmer has unintentionally violated his right. At the same time, the farmer, seeing that he has unwittingly trespassed upon the patent of another, will be willing to do the fair thing. Those two—the farmer and the holder of the patent, if bona fide—will not be long in coming to a settlement satisfactory to both.

BUT IF A FRAUDULENT CLAIM IS MADE,

Don't get frightened, but go slow. In this country, even a pretended patentee can not throw a farmer into a dungeon and feed him on bread and water. The thing is to be settled by law, and in a *United States court*—not before the next Justice of the Peace. If one claims that a gate or other thing is patented, ask to see the patent—you are not obliged to take his word for it. If he has his patent, take its date and number. If he has not the document with him, ask for the date and number. If he can't give these, tell him that when he can bring them you will consider the matter further; "but for the present, as I am rather busy, good-morning." If he does give date and number, tell him that you will write to the Patent Office to see if it is all right. Mark this: If one has an honest patent, he will accept the justice of your position; otherwise he is probably a fraud.

Oh! I forgot to tell you my friend, N. C. Mitchell, paid me a visit a few weeks ago; indeed, I was really pleased with him. R. F. WIER.
South River, Anne Arundel Co., Md., Dec. 16, 1879.

People are generally pleased with him, friend W., and that is the secret of his success in getting their money. "Confidence men" are all adepts in making themselves agreeable, are they not? It is for this very reason, I am obliged to keep telling our readers to *look out*.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.

MEDINA, FEB. 1, 1880.

For there shall be no night there.—Rev. xxi. 25.

Is there any mud where you live?

HAVE your bees got plenty of stores? and are they tucked up warm, ready for a "big freeze," if one comes?

WE have more than the usual number of letters waiting for a place, so do not get cross, my friends, if you find yours left out. It is but human nature to think your items of a vast deal more importance than those of your neighbors, to which I have given place. Inasmuch as you can not all be right, will it not be well to exercise charity?

IN my notice of the permit to allow queens to be sent by mail, I neglected to state that it was at the North American Bee-Keepers' Association, where a committee was appointed to confer with the P. M. G., in regard to the matter. Prof. Cook was chairman of this committee. Let us not forget to give the convention due credit for taking up the matter.

THERE is considerable discussion in regard to the sawing machine advertised in this number, and, as it seems a hard matter to determine whether it is really a good thing or not, I would caution our readers against purchasing until they have seen the machine and tried it. Of course, I shall make no charge for the advertisement after this notice.

WE are selling a great many of the foot-power grindstones, but I do not hear a word either for or against them. As I have praised them rather strongly, I would like to know if my customers are

as well pleased. When I see how you all invest in anything I recommend, it makes me feel that I ought to be pretty careful as to what I say.

There! I had hardly got the above written, when the following card was handed me. You see the grindstone is all right, in at least one family:

The grindstone has been received, and is a gem,—the very thing to keep tools sharp. Please send me two new price lists. I have given mine away, and have been asked for another.

St. J. T. MOORE.

Monroe, La., Jan. 21, 1880.

It seems that some of the friends have been a little disappointed in the cheirograph described last month. With good ink, and practice, a single writing will give 100 or more impressions that can be read without difficulty, but as the impressions constantly grow fainter, they are, of course, not as handsome as printed circulars.

There again! I had just got the above written, when "Bess" discovered that "W. O.'s" violet ink works just beautifully on the cheirograph. After the "troubles" we have had making ink for it, you may guess how we rejoiced.

Now we can give you a nice apparatus, ink and all, for only 50c.; if sent by mail, 75c. Samples of the writing free on application.

POLLEN NOT ABSOLUTELY NECESSARY FOR WINTERING.

QUITE a number are worrying because their bees have no pollen, and fear they will die for want of it. Be not troubled, my friends; bees will winter just as well, and some think better, without a cell of pollen. Of course, they must have pollen when they commence brood-rearing, but some cases have seemed to indicate that those colonies did best which raised no brood until they could fly out and get pollen in the spring. If you want to build up your colonies in the winter, the flour candy furnishes it with very little trouble. If you feed so as to have young bees hatching out all winter, you will certainly have more bees in the spring (unless they get the dwindling and die off), but it will take more time and money than it would to let them rest until natural stores come.

THE NEW SECTION BOX.

THE machine for making sections shown this month only makes the 4¼x4¼, Simplicity section. As it runs constantly on these and nothing else, we are enabled to make the white basswood sections at very low prices, even though lumber and every thing else has advanced so much. Our prices for this season will be as follows:

Any number less than 500, ¾c each; from 500 to 5000, in whole packages of 500 each, \$6.00 per thousand; from 5 to 10 thousand, \$5.50 per thousand. Ten thousand or over, \$5.00 per thousand, which is only ½c each. This latter rate can be secured by neighbors clubbing together. Closed top sections, same prices. Is not that cheap enough? The section with the V shaped groove, if accidentally broken, can not be nailed, or at least not easily; ours, if broken by carelessness or otherwise, can be quickly and handsomely nailed, with the smallest size wire nails.

Mr. Gray is now at work on a machine that will make the same section of any size, and any kind of packing boxes on the new-principle corner. Odd sizes, at per prices in the price list.

The contents of this leaf and the one following are not directly connected with the subject of bee-culture. On this account, I make no charge for them, and, if you choose, you can cut them out without reading.

Our Homes.

Come unto me, all ye that labor and are heavy laden, and I will give you rest.—MATTHEW. XI. 28.

A FEW days ago, in our noon services, the thought was brought out, that it is a good thing to have wants. Now that I think of it, I am pretty sure it is a good thing for me, at least, that I have wants.—yes, and great wants. Unless I want something, and want it intensely, I can not pray intensely. It seems as if it was only the earnest and intense prayers that God honors by answering. If we go to prayer-meeting because we think we ought to go, and then pray solely because we think we ought to pray, or because it seems to devolve upon us to pray, as people will expect it of us from the position which we occupy in community, it—well, what do you think about it, my friends? I do not quite like to answer the question, because I am pretty sure it is better to go to prayer-meeting with such a motive than not to go at all.

Suppose you have found where you can buy a lot of bees extremely low, and the man who has them is so anxious to go away that he wants to get them off his hands within an hour. You have examined them, and ask him to wait until you can go to the bank and get the money. He agrees to do this, if no one else will make him a better offer before you get around with your money. On the way to the bank, you go over the bargain mentally, and plan where you will locate your new apiary, how you will manage so as to get your money back this very season perhaps, and you are so full of energy and excitement about it, that you are in a glow of pleasure and exuberant spirits. Do you dread going to the bank? Why, no. Banks are pleasant places to go to when you have a balance to your credit; and all you have to do, when you want money for some useful purchase like this, is to go there and demand it. There is a satisfaction and a pleasure in doing business among men, and in knowing that your demands will be honored with alacrity and without question, and in feeling that you are known, respected, and recognized, and are somebody. Suppose that somebody should say that banks are dry, dull, and insipid, and that they can see no sense in them. Would you not naturally conclude that they have no money deposited in them, or else that they have no wants that make them need money? Then are not wants a good thing to make us happy? Did it never occur to you that you might, with much propriety, thank God for having wants—yes, for having a great many wants? Putting it that way, it seems to me I ought to be a very happy individual indeed. There is, in fact, no end to my wants. One of the greatest wants I have at present is to be able to give everybody that comes to me something to do. If I could say, "Yes,

sir,—yes, my friend,—plenty of work; I want every one of you; I can give you but small wages to commence with, but, if you are faithful in few things, God will make you ruler over greater things; come one, come all," it seems to me I should be perfectly happy, for a while at least.

To go back to the prayer-meeting matter: Some may ask, "Do you really mean to say, Mr. Root, that we should go to prayer-meeting with our wants in the same way we would go to the bank after money?" Perhaps I would better be careful about laying down rules for others, but as for myself, I am sure that God wants me to go to prayer-meeting with exactly the same spirit I would go to the bank after money. I know that he wants me to go there full of wants, and when I do, I am sure to come back with an armful of good things. I told you last month how Mr. House and I went to the Thursday evening prayer-meeting, and how we both came back with our wants supplied. Well, I am sure this is the way it should be every time. Of course, I know that your wants, many times, are far different from mine, but of this I am sure: God will accommodate anybody whose wants are for the good of their fellow-men, or are at least innocent wants, and those that will harm nobody. I recognize that these ideas are a little out of the line of a great many prayer-meetings, but I am afraid that many of the prayers offered in prayer-meeting spring more from a sense of duty than from really heart-felt wants. I can not feel that very long prayers are often needed. In going to the bank, there are few people who have a list of wants which requires ten or even five minutes, to state. If God should answer some of these general prayers that cover the whole world, the one who made them would be surprised, if not troubled, with such a multitude of gifts. In saying these things, my friends, I by no means wish you to get an idea that I think myself perfect in this respect, for I know I am guilty, a great many times, of praying because I think I ought to, and of praying when I have no particular want of any kind, or, at least, I do not call to mind just what it is, at the time the prayer is made. I have often felt this strongly at our noon service. Many times I say to myself,—

"Now, old fellow, look out you do not come before these boys and girls again without some definite idea of what we all need and want, and prepare yourself to ask God for something for which you are sure that at least a great part of them can join heartily in asking."

When I make this preparation, and have my prayers strike, like hitting a nail on the head, at the very events of that day, in which we all feel our need of God's help and wisdom, I am sure to feel afterward that approving voice of conscience which tells so plainly when our work is acceptable in God's sight.

In regard to wants: I want money, because—at least I hope it is because—I seem to be able to do more good with money than in almost any other way; but in saying this, I recognize that my heart in common with the hearts of the rest of mankind, is "des-

perately wicked, and deceitful above all things," and I therefore feel like praying that God will not let me have it, unless it will be best for me to have it. A great many times I have called for help, when money had nothing to do with it, and was not needed at all to help the friend out of the toils of Satan. The young sister who writes the following letter is one of the weary and heavy laden, and yet she has, apparently, every thing in the way of home, friends, and plenty, that one could ask for. She is, nevertheless, in real trouble, as I know by experience.

Friend Root:—As a reader of GLEANINGS, I can say that I highly appreciate the Home Department. As you seem so familiar to your readers, I hope we can have a little talk. Though I am very moral, I am much dissatisfied with my life. I am always dissatisfied and restless. I would willingly become a Christian, but I have no gift for anything, and my faults would only make me a stumblingblock in a Christian church. I am a slave to my faults. I have an ungovernable temper, and in spite of all my efforts to keep cool, I forget myself, and scold before I know it. If, at times, I do keep cool, my other faults are so numerous that I become discouraged, and lose all interest in life. Unable to make a success of anything, I am only a burden to others. I could bear everything, but the one constant thought that, even if I do conquer my faults, I am too inferior to be of any use in life.

I am too proud to own my faults to mother, and she thinks I do not see them, and can not sympathize with me. I have no enemies or friends. No one cares for me. I am uninteresting to all, and what is life without friends? There is always a coldness between my brothers and sisters and myself that is unbearable. It is all my own fault, for, knowing that I am inferior to them, I keep myself back. My life is a failure. I have no longer energy enough to try to conquer my faults, and live indifferent and careless. My young days have not a single charm for me; not a single ray of hope is left. I am in perfect despair. For fear of betraying my feelings, I assume a proud, independent appearance. I have true Christian parents. Often mother, with tears in her eyes, asks, "How can you be so careless, knowing what you do?" I know the Scriptures, and see plainly where I am standing.

As to prayer, I disagree with you. It sometimes seems as if God himself was thwarting my every wish. I will give you one instance: A preacher came to our vicinity, of whom I thought a great deal. I felt very down-hearted, and I thought a talk with him might do me good. I prayed that he might visit us, and that I might have a talk with him. He visited us, but did not seem to care to speak to me at all, and I afterward found out that he had promised to come before I prayed.

Often I have resolved to change my life, and prayed God to help me, only to find myself entirely powerless. Constant remorse for my faults, and the reproaches of conscience, are more than I can bear. If I only were unhappy, I could bear it; but to see that I am making others unhappy is too much, and I fear the result will be a suicide's grave. Once I could have stopped these thoughts, but now I can not. Were it not for the dread of eternity, I would ere this be sleeping in my grave. With the hope that you can give me some advice, I have written these lines. M.

Many thanks, friend Mary, for the confidence you have placed in my humble self. Before my conversion, my feelings were almost exactly what you express. Now, my friend, a physician, in curing, or trying to cure, a patient, often gives much pain; and I fear I shall give pain. You can not be a Christian, and you can not be happy, until you give up *thinking so much of yourself*. Commence this minute to care for others, and see how soon you will enjoy life. Try to please your mother; study her happiness and wishes; and sympathize with all those about you, exactly as you wish them to sympathize with you. Now, friend Mary, you will fail here, just as you have so many times before, unless you heed this: Do not expect to be appreciated (except by your heavenly Father), and make up your mind to bear trials and disappointments. Arm yourself beforehand, and be prepared for all sorts of discouragements, such as finding people selfish, unfeeling, ungrateful, greedy, and the like; but keep on, asking your Savior to help you step by step, and you will finally conquer. In this way you are saying, "Get thee behind me, Satan." Don't wait for your minister to come to you, but go to him, and think, whatever happens, that God surely knows best, and that his word, "All things work together for good to them that love God," is true. If you are trying to save others, thus showing your love to God, everything that happens will be all right. "Hold the fort," and keep on, Mary, and yours will be the victory. Read November Homes. If anybody is sick, go and take care of them, and give up the selfish life you have been leading. It will be a great task, I know, for Satan will not let you loose without a tussle; but remember "He that overcometh, to him will I give power over the nations." Live for others, and you will never more think of suicide.

You say, in speaking of the minister's visit, that you afterward found out that he had promised to come, *before* you had prayed he might do so. Does that affect it in the least? Does not God know the future as well as the past, and does he not, even before the prayer has been uttered, move people's minds so as to bring an answer to that prayer? Many old Christians have stumbled here, as well as you, my friend. The matter is somewhat complicated, to go into full details, but if we have faith as "little children," we shall be safe, even if we do not understand it all. I pray for money for our work here, and pray that it may come by a certain day. Now, to go farther, I have often prayed that the heap of letters on the table before me might contain the sum I needed. Of those of you who say the praying could not possibly affect the letters written and sealed up days ago, I would ask, how long beforehand must we pray for what we need? If God must wait until the prayer is uttered, before he can impress the minds of people in a certain direction, he would be, to a certain extent, like our mails and telegraphs; we should have to wait a reasonable amount of time for him to bring the people into action. Is not this limiting

his power, and is it in accordance with Bible teachings?

And it shall come to pass, that before they call, I will answer; and while they are yet speaking, I will hear. — Isaiah, lxxv. 24.

I do not mean that he is going to change the contents of the letters, as they lie on the table, by a miracle, but that God knew I would so pray, and moved the hearts of people accordingly. Well, suppose, at just about that time, I had lost faith in prayer for temporal things, and so had not prayed: God would have known that such would be the case, and so the contents of those letters would have been, at least in a measure, according to my faith and my prayers. Such a view and such faith makes man small, but God all-powerful. Now, Mary, you want just this faith amid your trials.

You say it sometimes seems as if God himself were thwarting your every wish. There is a bright wide-awake little "chick" down at our home, whose wishes are thwarted almost constantly; and, sometimes, when she evidently seems to think forbearance has ceased to be a virtue (she is but two years old) her blue eyes are raised and fixed on her mother's face as if to say, "Is it because you wish to pester my little life out of me, that you continually thwart me thus? or do you really do it because you love me, and would make me happier and better by withholding?" I do not pretend to say that these exact words pass through her baby mind, but she seems to be considering the matter, and debating why she cannot have things. Is the mother's wisdom really so much greater than hers? (Child as she is, in the firm mother's look, she reads love a thousand times greater, than that of the mother who gives her child everything it cries for. What a beautiful sight it is, to see a child wide-awake and full of wants and wishes, yet with such perfect confidence in the parent's love and wisdom as to be perfectly and cheerfully obedient in all things. Now, Mary, can you not look up to God, your heavenly father, in that same way? Can you doubt either his love or his wisdom? Is it not probable that he knows far, far better than you?

If the child rejects the mother's advice and assistance, and will not trust to be guided, you well know the result. Mary, are you not rejecting your Savior, in the same way? You have allowed skepticism to get a hold in your heart, and—see where Satan has led you! "The wages of sin is death," and he is hurrying you on to death, in a double sense. Satan's wiles, every one of them, turn sooner or later into death: into the death of the bottomless pit.

In the name of our Lord Jesus Christ, who died for sinners, I invite you, Mary, and all others who feel themselves to be sinners, especially, helpless sinners,—in his name. I invite you at once, this instant, to come out of the toils of Satan, and to accept rest for your souls.

Last week, some boy was swearing vehemently, on the street near our home. It proved to be one of my boys, in my class in the Sabbath school. After the lesson was over, last Sabbath (we have a little room by

ourselves), I told the boys I had been much pained to know that one of our number had been heard swearing during the past week. To my surprise, one who was not the boy I had in mind said, he should think it strange, if I had one in the class who had *not* sworn during the past week. Before judging too hastily of the boys, or their teacher, bear in mind that they are nearly all boys of the streets, and too many of them, I fear, have parents who are skeptical, or do not care much whether their boys swear or not. I know I am to blame, and, with God's help, I hope it may be different. After this remark was made, I said nothing, but waited for them to go on with it, as I was pretty sure they would.

Finally said one, "I am afraid I have sworn during the past week."

"I am sure I have," said another.

"And I," "and I," "and I," said they, one after another, until only one boy was left, who said nothing.

"Do you not swear, G.?" said the rest.

"No." This was so astonishing that some of the rest said they did not believe it. Is Medina worse than the towns generally in our land?

"I can keep from swearing, except when I get real mad," said one. Another said he did not believe a boy could help swearing when he was "awful" mad. I looked from one to another. They deny the Bible, and ridicule or jest about religion almost every Sabbath, in spite of all I can do with them. Their associates during the greater part of the six week days are, I fear, mostly irreligious people, to say the least. The one who does not swear has godly parents, and lives a little out of town. Is it possible for boys who roam the streets in the evenings, who do not think the Bible of any particular consequence, and who do not accept Jesus Christ as the son of God, to break off swearing, if they try ever so hard? I am afraid it is not possible. These boys all agreed that it was bad, and wrong, whatever they believed, but they had got into the habit, and they could not break off.

A poor girl once went to do house-work for some rich people. There were, at the house, two daughters of about this girl's age. They were of that class who thought it genteel not to labor, and therefore added to the poor girl's other trials, by ill-treating her at every opportunity. She tried not to resent it, but humanity was too weak, and she often, to her own shame, lost her temper, and made matters worse by answering back. A well-to-do young farmer was in the habit of visiting there often. Our poor girl had often noticed him, and thought what a really true gentleman he was; but the idea had never entered her mind that he ever so much as even thought of her poor self. One day, he called when the family was away; she answered his call, and, after explaining that the young ladies were both absent, was about excusing herself, that she might go about her work, but he insisted that it was she, and she only, whom he wished to see. Before he left, they were betrothed, but it was thought best for her, at least for a time, to go on with her duties as if nothing had

happened. With a new purpose, and with a new life we might almost say, she turned to her ordinary duties. Nothing was oppressive or difficult, while the memory of the love that was in her keeping filled her whole being. Nothing could ruffle or disturb her, and the family looked in wonder at the quiet, peaceful spirit which seemed to shine from her face. Why should she mind toil or drudgery, or even rudeness and taunts? Was not the thought of this strong, kind, true friend, who was to go with her through life, a sufficient reason why she could pass over these trials as if they were unworthy of notice? It was but a little while, at the longest, and why should she not be proof against all that her tormentors *could* possibly bring forward? Back of her own feeble strength was that promise; could not she show her gratitude to him, by taking up bravely those little trials, especially as it was his wish? For *his sake* could she not bear joyfully all, and more than she had ever borne yet?

I have drawn a simple picture of an earthly friendship. Can this be compared at all to our Savior's love? to the love of him whom even the winds and the sea obey? I have given you this picture to make plain what it is to reform in the strength of your heavenly Father, instead of in our own strength. Do you suppose those boys would be in danger of swearing, if they accepted this friend, and would allow his great love a place in their hearts? Do you say the girl had nothing to do with it; that it was a piece of great good-luck which was almost thrust upon her? My friend, she accepted this kind friend's offer, and she promised to give her life into his keeping. Suppose she had said she didn't believe him, or had ridiculed the whole matter, instead of giving it her serious consideration? She knew of him by report, through the whole country round; she knew he was able, and that his word was as good as gold. So those boys, and you too, my friends, know the result of Bible teachings throughout the whole world; you know, too, that God's promises, taken in the spirit they are given, are sure; and yet you do not accept this great pilot and friend, who will take you safely not only through this world, but through the grave and eternity. Why do you reject this love, this friendship, this partnership? I like the last word the best of all, and I want every one of you to choose the Lord Jesus Christ for your partner through life. I want you to do it this very instant, and when you lay down this paper, I wish you to start anew to show, by your actions and countenance, that you have accepted the promise, and are going to strive to so have his great love fill your whole being, that the trials you have may be met with cheerfulness, and you may even be able, as the Apostle James says, to "count it all joy when ye fall into divers temptations."

Friend Root:—You can not tell what good I receive from *Our Homes* in *GLEANINGS*. I have owed some few small debts for some time, and I have neglected, for one reason or another, to pay them; but reading your *Home Papers* has struck the right cord, and to-day I send three men their pay. How much happier I feel for so doing! I once belonged to the church of Christ, but have long since back-

slid and Satan is forever after me; but I am now in hopes I may conquer at last. O friend Root, how I would like to see you for one hour, for I believe the Lord is with you.

Hoping your prayers may ever be answered whenever praying aright, and wishing the "*Home Papers*" and *GLEANINGS* much success, I remain your scholar,
G. A. BEECH.

Quitman, Mo., Jan. 11, 1880.

May the Lord bless and strengthen you, friend B., and may you never go back again. Among the multitude of letters received in regard to the Jan. *Homes*, none has moved me like yours. When Christianity puts on a phase that leads men to repent of their sins, and pay their just debts, there will then be no more need of replying to Stephen Young, Bob Ingersol, and other sceptics, for the fruits of religion, the deeds themselves of professors, would be more powerful arguments than words could frame, and whole libraries of theological books would fade into insignificance before these little, simple acts in daily life. Grant, O our Father in Heaven, that more may have their hearts softened, and take up their crosses, even as little children, like thy humble servant who has pointed out to us the way, in the simple, confiding letter given above. Help us, O Lord, that we may indeed "bring forth fruits meet for repentance." Now, friend B., before you are one day older, enroll yourself with the nearest sect of Christian people, and talk to and exhort them just as you have us to-day. Let your light shine, and God will keep you where Satan's wiles will be as easily shaken off, as straws and chaff driven by the breeze against a strong man.

From "*Home Paper*" in Jan. *GLEANINGS*. I see you have a nice opportunity to *show your faith by your works*. Therefore, send friend W. O., who is in trouble, some money to relieve his embarrassment. What does it profit him for you to say, be ye clothed, fed, etc., if you give him not the things which he so much needs? See James II, 14-16.

A. F. BONHAM.

Seven Miles Ford, Smyth Co., Va., Jan. 11, 1880.

Your words are right to the point, friend B., and I thank you for your timely reproof. Perhaps it may increase the faith of all of us to hear from W. O. again. The following is an abbreviated extract from a recent letter:

I know you will rejoice with me that the evil day, so to speak, has been put off to the future. I think there is no man in our city whom I thought to be more cold-hearted and indifferent. I went to see him, praying every step I took. Said I, "Mr. J., if you could add five or ten years to my life by doing me a favor, would you do it, provided it did not injure you?"

He said he would. I then told him how much trouble I was in, and how I had failed to raise the money, and wished him to grant me until the 15th of April next. He replied that it was in Mr. M's name, and he had no control of the matter. I told him I could not long stand the strain upon my physical organism. He finally replied that I should not give myself any uneasiness. If he found that it was secure and would not be jeopardized he would wait. I had promised to pay ten per cent interest in advance to the 15th of April, but he said I need not pay any money now, and he would let it remain *in statu quo*. So the great burden was removed for a time, and I hope for all time. I could but think how wondrous it was, that the very man I most feared, was the very man whom God told to help me. Then I remembered what the Devil told me when I had written the letter to Mr. M., and in a day or two afterward learned that he was in Europe. I can but say, "Praise God from whom all blessings flow."
W. O.

Jan. 3, 1880.

Thank God for so much. Now what shall friend O. do to have that money ready by the 15th of April? I found out, several weeks ago, that his business is manufacturing ink and bluing. We are using his ink now in our office. Most of our clerks use steel pens, and one of them told me she had to have a new one about every other day, because they rust so badly. A steel pen was used in friend O.'s ink, and, after two weeks, it looked nearly as bright as when first put in the ink. It is an absolute fact, that it does not rust pens at all. Besides this, it may be frozen, colored inks as well as black, without injury. It is a beautiful plain black when first written, and it does not get thick if left in an open bottle. These seem like large claims, but I think they are none too large. I asked him for prices in quantities. Here is his reply:

I can deliver ink, in 2 oz. bottles, in Medina (if it does not have to go over more than one road), for \$2.75 per gross, or for 80 cents per gallon, in jugs. We are selling more put up in quarter-gross boxes, assorted colors, of one doz. each, black, blue, and violet, than in any other way. Our commercial college in this city, of 120 students, uses our inks in preference to all others; and those who value good inks are satisfied, upon trial, with quality and price. I am well satisfied that the better you are acquainted with the virtues of our inks, the more you will like them. I am also quite sure that, upon *fair* and *impartial* trial, they possess more good qualities than any other inks in America. The violet ink from New York, used in our post-office, becomes thick, and corrodes the pen, while ours does neither; and a 2 oz. bottle of ink that will retain all its good qualities till the last drop, is worth more than a 4 oz. bottle that loses its good qualities before it is half used up. The above is for quantities of not less than 5 gross. We sell the assorted, colored inks, $\frac{1}{4}$ gross, \$1.00; or \$4.00 per gross. If desired, we put in one each of green and red, in place of the black.

W. O.

This would be at the rate of less than 2c. for large 2 oz. bottles of better ink than any I ever before saw in my life, delivered here in Medina, at that. I began to think friend O.'s besetting sin was in selling things too cheap. It is not a very common fault, yet it may be a fault for all that. I at once ordered 5 gross, and a "jug full" for our own use, and told him I would pay the freight, and think it too cheap even then. Here is his reply:

I was very glad indeed to secure your order for ink. It was surely kind in you to give me more than I asked for the ink, and very opportune, as the price of bottles has advanced 50 cents per gross.

Jan. 5, 1880.

W. O.

I presume many of our readers have been interested in the case of W. O. If all the ink we all use were purchased of him, it would be a mutual advantage to both parties, for I do not believe any of you have any thing as good, or as economical. After what he has written, I presume he would not care to have his full address made public, but I will give it to any of you who desire. Or I will forward any letters to him. Many times, in this world, we can give substantial help to our fellow men, in the way I have suggested, without its being any real loss to ourselves, and God seems to delight in sending us, often times, rich blessings in reward for so helping others.

By this shall all men know that ye are my disciples, if ye have love one to another.—John xiii. 35.

W. O., we will pray for you, and we will also, all of us, try to send you all the orders for ink we can.

JUST BEFORE GOING TO PRESS.

THE bees in the chaff hives out-door, at present, are doing very much better than those in the house apiary.

WE have been selling queens, nuclei, and full colonies all through the month of January. Our apiary now numbers 191.

WE have finally obtained a beautiful article of *white-clover* seed which we can sell the same as Alsike. It is the first we ever saw.

IF all the friends having circulars of bees and bee supplies will send them in during this month, I will try to give them all a notice in the March No.

UNTIL further notice, I will pay 25c. per lb. cash, or 27c. in trade, for beeswax delivered here. This advance has been made since printing our advertisement on the cover.

THE "counter" store is crowded out this month, but I will try to have room for it next time, with pictures of the wonderful things that are offered for a very little money.

THE lowest club price for GLEANINGS for 1881 will be 75c. Will agents please notice that the 60c. rate only extends to Dec., 1880. As we are saving plenty of back Nos., you can take them, or add to the subscriptions that run into next year.

FRIEND BINGHAM says, in his new advertisement, that none of his smokers have ever been returned, and no one has ever complained that they did not give satisfaction. His smokers are of most excellent workmanship, but is not this statement pretty strong? I presume he will be glad to have you speak out, if you know aught to the contrary.

THERE! that is just like you all. You have gone and sent me 4,207 subscribers, and it isn't quite the 1st of Feb. yet either. I will tell you what we will do; we will hereafter add 8 more pages to GLEANINGS, and thus have more room for your letters, besides leading all the small type, so it will not be so hard to read for the friends who are getting a little old.

THE A B C has grown until it weighs two full pounds, and I tell you it is a nice large book, for only \$1.25; but, for all that, we will send it and GLEANINGS 1 year, for an even \$2.00. If bound in paper, for only \$1.75. "Cook's Manual," same terms; "Quinby's New Bee-Keeping," 25c. more; and "Bee-Keepers' Text Book," 25c. less. We have a "big stack" of all the "bee books," and can mail them so quickly it will astonish you.

THERE are now 7 bee journals published in America, and we will receive subscriptions for any and all of them, as you will see by our clubbing list, but I cannot be responsible for any of them, after I have put your money into their hands. I have decided that they are trustworthy, or I should not have placed them in our clubbing list; but, if they do not issue promptly, you are to write them, not me. Some of them are not yet out for January. I would just like to whisper to some of the *very young* editors, that it would help wonderfully, if they would also get some smart "school-marm" to read over their journals carefully, before they have them printed. It would not cost *very* much.

MANY of the articles used by bee-keepers are still on the "boom," as the saying is. Although lumber has risen much, we are trying hard to hold to our prices on hives, etc. Nails have advanced on an average of \$2.00 per keg, except the new wire nails; we are holding them at old prices, and are using them entirely, in place of brads and cigar-box nails. The largest size, 1 $\frac{1}{4}$ in., 1 to 5 lb., per lb., 17c.; 5 to 10 lb., 16c.; over 10 lb., 15c. One inch nails, 2c. per lb. more than 1 $\frac{1}{4}$ inch. Of the smaller sizes, the prices remain as in price list. The advance on tin has threatened to "raise mischief," but I have finally found a very thin tin for separators, called "taggers tin," which is really better, because it carries off the animal heat less; and this I am enabled so far to buy, so as to keep our prices on separators. This tin is now worth \$16.00 per box of 224 sheets, size 14x20. Such tin as we use for corners and extractors is worth \$14.00 per box of 112 sheets, 14x20. Glass has advanced the most of all, and the best we can now do is \$4.00 per box, for small sheets, and \$4.50 for the 2 1-16x18 inches, which we use in our crate for the 1 $\frac{1}{4}$

story hive. Fruit and honey jars are \$1.00 per gross higher. Enamelled cloth is up to 30c. per yard; or for a whole piece of 12 yards, 28c.

DIPPED FDN. VERSUS ROLLED.

EVERY one who has watched the bees closely has probably noticed that before drawing out the walls of the fdn., they roughen or pick up the whole surface until it has a granular appearance, especially under a good magnifying glass. Well, it is a great deal of labor for the bees to soften up and loosen, as it were, this wax, after we have compressed it with our powerful rolling machines, as we do in making the fdn. Still further; I am fully satisfied that it is this loosening up operation which causes the greater part of the stretching of the fdn., and this is probably the reason why the fdn. made by dipping plaster molds into melted wax, on the plan of the editor of the *Western Honey Bee*, does not sag as the mill fdn. does. That made on the Dunham mill, with its heavy walls of almost soft wax, does not sag, but we can not stand the expense of so much wax.

Dipped fdn. is certainly used by the bees more easily and faster, than that made with rolls; but, alas! we can not make dipped fdn. with walls on both sides. I spent much money last summer in experiments, and had metal plates made, as well as plaster, but I finally gave it up. Well, why not let it go, as friend Harrison does, with walls only on one side? Because the bees will often raise the cells and use them on this one side, and leave the other untouched. They must have some kind of a wall to get hold of. I have partly succeeded by dipping plates in the wax, and then bringing them together before lifting them out; the great trouble is that the whole machine is coated every time, and it is a daubing job. One more objection; although we can dip fdn. as thin as the natural comb, almost, it is very difficult to get large sheets without having thick spots in it, which wastes the wax because it does not cover so great a surface. I think dipped fdn. is eventually to take the place of our rolls entirely, and, for the purpose of setting some of you at work, I will make this offer: To the person, or persons, who will succeed in dipping fdn., with walls on both sides, and thin enough to make 8 square feet to the lb., by a process to be given to the people, so easy that it can come into general use, I will pay \$100.00. Now look out that I do not do it first.

Honey Column.

Under this head will be inserted free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away, to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25cts., we can furnish little boards to hang up in your door yard, with the words "Honey for Sale" neatly painted. If wanted by mail, 30c. extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

ST. LOUIS.—Honey—We have little change to note in markets of honey here. Warm weather has cut off the local and shipping demand, and prices are a shade lower. Choice Comb, small sections, 14c. to 17c.; Dark and Fall Honey, 13c. to 15c. Extracted dull, and salable only in small quantities, at 8c. to 10c.

Bees-wax.—Steady, at 22c. to 23c. for prime.

R. C. GREER & CO.

St. Louis, No. 117, N. Main St., Jan. 21, 1880.

CHICAGO.—Honey—There is not much demand for honey, and with liberal offerings prices are easy and in buyer's favor. For dark-colored honey and large, leaky packages the market was dull and weak at 10¢ to 12¢ per lb. Good to choice white comb in small packages is salable at 15¢ to 16¢ per lb.

Bees-wax—Is in fair demand and steadily held at 20¢ to 22¢ per lb. for good to prime bright yellow and 15¢ to 16¢ for common and dark-colored lots.

THOMAS G. NEWMAN & SON.

974 West Madison St., Chicago, Ill., Jan. 26, 1880.

I can give you each month what my honey brings, which will give you about the highest range. It is now, and has been for the last 2 months, 22c., and I have no friends who get for me more than the market price. I never go to Chicago now or I could post you fully. If nothing else comes of it, it will at least do good by letting producers know how matters stand.

C. C. MILLER.

Marengo, Ill., Jan. 20, 1880.

I have one barrel of very nice, granulated, linden honey, which I will sell for 10c. per pound, if taken in lots of 200 or 300 pounds. Delivered at Ada Depot. Will send sample of said honey if required.

J. B. MURRAY.

Ada, Hardin Co., O., Jan., 1880.

Conventions.

Notices of Conventions, condensed so as to occupy not over two lines, will be inserted free of charge.

CONVENTION DIRECTORY.

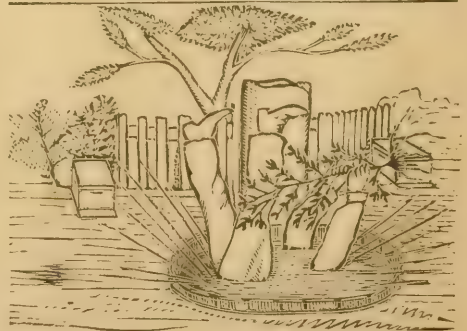
TIME AND PLACE OF MEETING.

1880.

Feb. 11.—North Eastern, at Utica, N. Y.

Feb. 3.—Cortland Union Bee Keepers' Association, Cortland Village, N. Y.

OUR CARTOON FOR FEBRUARY.



YOU see our friend Merry Banks made a very pretty fountain, where his bees could get water conveniently, and he also planted some *Melilotus leucantha* (sweet clover), to furnish honey for his bees. Well, some few stalks were so near his fountain that he one day thought he would pull them up, but they did not come very readily. Now M. is a very resolute man, and not easily baffled, and—he was not this time, either. You see he pulled it up, and he will soon be ready for the next one.

IMPORTED QUEENS!

In April, - - - - - 11 francs in Gold.
May and June, - - - - - 10 " "
July and August, - - - - - 9 " "
September and October, - - - - - 7 " "

Queens which die in transit will be replaced only if sent back in a letter.

1tf CHARLES BIANCONCINI & CO.,
Bologna, Italy.

ITALIAN BEES FOR 1880.

I will sell 3 frame nuclei, with tested queen, before June 20, for \$4.00; after June 20, \$3.50; after August 1, \$3.00. These nuclei will be well stocked with brood and bees, and contain young, profitable queens. *Cyprian Queens*.—I believe myself, so far, the only one in the U. S. who has these valuable and beautiful bees in purity. Descriptive Circulars sent free.

JULIUS HOFFMAN.
Fort Plain, Montgomery Co., N. Y.

18 Years' Experience

in propagating Queen Bees from Imported mothers from the best districts of Italy. Persons purchasing Queens or swarms of me will get what they bargain for. Send for circular. WM. W. CARY,
1tfing Colerain, Franklin Co., Mass.

Sections! Sections!

Before ordering elsewhere, send us a 3-cent stamp for a sample of our beautiful, snow-white, poplar Sections, dovetailed or to nail. These are the nicest and cheapest in the world. (This none will deny).

HIVES AND OTHER SUPPLIES

made to order very cheap. Illustrated circulars free.
A. E. MANUM,
12-2 Bristol, Addison Co., Vt.

I SHALL continue to keep on hand, and offer at reasonable rates, a full variety of Bee-Keepers' Supplies; such as

Muth's All Metal Honey Extractors,
Uncapping Knives,
Wax Extractors, etc. Also
Langstroth's Bee Hives, and any Parts thereof,
1 & 2 lb. Square Glass Honey Jars, with
Tin Foil Caps and Labels, [Corks,
½ lb. Glass Tumblers,
Fruit Jars, etc.

Comb Foundation, Bee Veils, Gloves, Straw Mats, Alsike Clover, and a variety of Garden and Field Seeds, etc., etc. For further particulars, address

CHAS. F. MUTH,
976 and 978 Central Ave.,
1tf Cincinnati, O.

DOOLITTLE.

Remember; Doolittle will send either of the following papers to any address for one year as follows:

American Bee Journal\$1.00
Bee Keepers' Magazine 65
Bee Keepers' Exchange..... 55
American Agriculturist..... 1 15

Also either kind of Strawberry Plants mentioned in our Club List, at 50 cents per doz. Raspberry plants, at \$2.00 per doz., ½ doz. at dozen rates.

Address G. M. DOOLITTLE,
2d Borodino, Onondaga Co., N. Y.

HORSE BOOK

Send 25 cents in stamps or currency for a new HORSE BOOK. It treats all diseases, has 35 fine engravings showing positions assumed by sick horses, a table of doses, a large collection of VALUABLE RECIPES, rules for telling the age of a horse, with an engraving showing teeth of each year, and a large amount of other valuable horse information. Dr. Wm. H. Hall says, "I have bought books that I paid \$5 and \$10 for which I do not like as well as I do yours." SEND FOR A CIRCULAR. AGENTS WANTED. B. J. Kendall, M. D., Enosburgh Falls, Vt.

For sale also at this office.--A. I. ROOT. 9-9

QUINBY'S
New Bee - Keeping,
By L. C. ROOT.

The latest, most practical, and most fully illustrated work published. The press generally, and best bee-keepers everywhere, are recognizing the practical value of this work, for all classes of bee-keepers. Price by mail, \$1.50.

BELLOWS BEE-SMOKERS.

The Quinby Smoker has been upon the market four years longer than any other practical smoker made. In 1879, it was much improved, and, on Mar. 11th, a patent was granted it over all other smokers, which fully protects all who buy, sell, or use it. It is pronounced the very best Bellows Smoker made, by Doolittle, Hetherington, Elwood, Dadant, Alley, Nellis, Hoffman, and unprejudiced bee-keepers everywhere.

In excellence of material and workmanship, we challenge competition. We make the only calf-skin bellows in the market. Price 75c., \$1.25, and \$1.50. By mail, to all points, including Canada, 25c. extra.

Our New Circular will be of particular value to all who purchased smokers prior to 1878. For testimonials of book, specimens of illustrations, including the Smoker, and price list of general bee-keeping supplies, address

2d L. C. ROOT & BRO., Mohawk, N. Y.

STILL LIVING!

J. OATMAN & SONS

would call attention of all desiring supplies for their apiaries the coming season, to the fact that they are prepared to lead the trade in

DUNHAM FOUNDATION,

ITALIAN BEES AND QUEENS,

MODEST AND LANGSTROTH BEE HIVES,

Honey Boxes, Sections, &c.

WAX WORKED TO ORDER ON SHARES OR FOR CASH.

Especial mention would be made of the fact that we bought 90 IMPORTED QUEENS OF MR. POMETTA last fall, and have them now wintering in full colonies, and will be pleased to book orders from all desiring a genuine Imported Queen earlier in the season than can usually be supplied. If you do not receive our Price-List by February 1st, write for it. Address your orders and communications to

J. OATMAN & SONS,

2tf Dundee, Kane Co., Ill.

HEADQUARTERS FOR APIARIAN SUPPLIES.

Steam Power. New machinery complete. Our facilities for manufacturing Hives, Crates, Sections, &c., are first class. Before ordering, tell us what you want. We can do you good. Comb Foundation. Extractors, Knives, Smokers, &c., constantly on hand. Full Colonies and Nuclei a specialty. Send for our new System for Wintering Bees Successfully.

2d HIRAM ROOT,
Carson City, Montcalm Co., Mich.

Albino and Italian Queens, Full Colonies, and Nuclei, at Reasonable Prices.

I am prepared to furnish early Queens—Pure Albinos, and Italian Queens bred from imported and select home-bred mothers, warranted to be pure. Safe arrival guaranteed. Also Hives, Root's Extractors, and Apiarian Supplies generally. Send for Price List, &c.

Address S. VALENTINE,
2d Double Pipe Creek, Carroll Co., Md.



QUINBY'S New Bee-Keeping;

The Mysteries of Bee-Keeping
EXPLAINED.

Combining the Results of Fifty Years' Experience, with the Latest Discoveries and Inventions, and presenting the most Approved Methods, Forming

A COMPLETE GUIDE TO
SUCCESSFUL BEE - CULTURE.

By **L. C. Root,**
Practical Apiarian.

With 100 Illustrations, and a Portrait of
M. QUINBY.

OPINIONS OF EMINENT APIARISTS, AND
THE PRESS:

Prof. A. J. Cook, of the Michigan Agricultural College, and author of the "Manual of the Apiary," writes to Mr. Root: "I have read it (Quinby's New Bee-Keeping) with much genuine pleasure. Surely the mantle of common sense, practical, plain, and simple style of expression, did not leave your family with Mr. Quinby. I rejoice in the book, and only have praise for it."

Capt. J. E. Hetherington, of Cherry Valley, N. Y., writes: "I do not hesitate to pronounce it the best practical work on the subject published, and shall do all I can to promote the sale of it."

"Students of entomology, as well as practical bee-keepers, will find a rich store of information in its pages, which form a convenient working manual, not only of most recent date, but of high authority."
—*New-York Tribune.*

"It gives a lucid and popular explanation of bee-keeping, and is well worthy of a perusal by all who are interested in the subject."—*Rural New Yorker.*

12mo. Tinted paper. Price, postpaid, \$1.50.

ORANGE JUDD COMPANY, Publishers,
245 Broadway, New York.

IMPROVED

Langstroth Hives.

Supplies for the Apiary. Comb Foundation a specialty. Being able to procure lumber cheap, I can furnish Hives and Sections very cheap. Send for a circular.

A. D. BENHAM,
Olivet, Eaton Co., Mich.

OUR FLAT BOTTOM COMB FOUNDATION,

with high, sharp, side walls, 10 to 14 square feet to the lb., HAS BEEN USED the past season in FULL SIZE SHEETS, in surplus boxes, adding LARGELY to the YIELD and to the MARKET VALUE of the honey. The wired foundation does not sag, and gives general satisfaction. Circular and samples free.

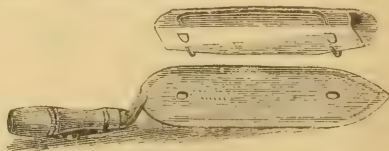
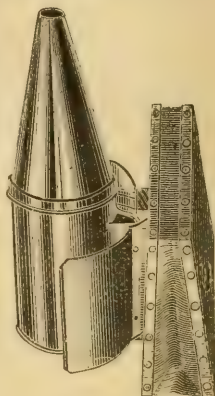
J. VAN DEUSEN & SONS, sole manufacturers,
2d Sprout Brook, Mont. Co., N. Y.

BINGHAM & HETHERINGTON.

You can lean on a Bingham Smoker in the hour of trial. One match per day, and wood of any kind, is all that's needed. It needs no fussing or cleaning or dampers, as it works just as well pointing down as up, and never goes out. Previous to my invention and patent, the draft to all bellows smokers was through the bellows; now, all bellows smokers use an open draft. The largest and most scientific bee-keepers use Bingham Smokers, some using as many as fifteen in their various apiaries.

No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give satisfaction; but we have received hundreds of letters expressing the most unbounded satisfaction and appreciation of our invention. Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons, is it? Patented January 9, 1878; re-issued July 9, 1878.

The extra large Smoker and the Extra Standard for 1880 will have our new extra-wide shields, which entirely protect the hands and bellows from heat, and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement.



Patented May 20, 1879.

Is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical, and scientific bee-keepers in Europe and America pronounce it "the best honey-knife ever made."

Extra Large Smokers.....	2½ inch,	\$1.50
Extra Standard ".....	2 "	1.25
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" " ".....	Per ½ doz.....	3.00
Bingham & Hetherington Knife.....		1.00
" " ".....	Knife and Cap-Catcher.....	1.25

If to be sent by mail, or singly by express, add 25 cents each, to prepay postage or express charges. Send for circular. If to sell again, apply for dozen or half-dozen rates. Address T. F. Bingham or

BINGHAM & HETHERINGTON,
2d OTSEGO, MICH.

BEE KEEPERS intending to purchase Bees or Queens will do well to send for my New Circular, before purchasing elsewhere. Pure Extracted Honey wanted in exchange for Bees and Queens.
2-3d A. W. CHENEY, Orange, Mass.

FOR SALE,

Price \$30., a Barnes Circular and Scroll Saw.
2 M. FISHER, New Concord, Ohio.

300 COLONIES BEES FOR SALE!

Come to Council Bend, Ark., on the Miss. River, and buy 300 Colonies of Bees. I am determined to sell.
2-4d GEO. B. PETERS.

SMOKERS.

	Smoker, Quinby's (to Canada 15c extra) 1 50 & 1 75	
	" Bingham's \$1 00; 1 50; 1 75	
25	" OUR OWN, see illustration in price list	75
00	Soldering Implements.....	1 00
	Swarming Box.....	75
2	Tacks, tinned, per paper, (three sizes).....	05
	For larger quantities see Hammers and nails.	
5	Thermometers.....	20
10	Transferring clasps, package of 100.....	15
	Tin, see price list.	
0	Veils, Bee, with face of Brussels net, (silk) The same, all of grenadine (almost as good)	75 50
	Veils, material for, grenadine, much stronger than tarlatan, 21 inches in width, per yard.....	20
	Brussels Net, for face of veil, 29 inches in width, per yard.....	1 50
	Wax Extractor.....	3 00
	Copper bottomed boiler for above.....	1 00
5	Wire cloth, for Extractors, tinned, per square foot.....	10
2	Wire cloth, for queen cages.....	10
	Above is tinned, and meshes are 5 and 18 to the inch respectively.....	
3	Wire cloth, painted, for shipping bees, 14 mesh to the inch, per square foot.....	05
	Wire for grape vine trellises. See Galvanized iron wire.....	

All goods delivered on board the cars here at prices named. A. I. ROOT, Medina, Ohio.

Hale's Price List.

Send for my Circular and Price List for 1880. Early Queens a specialty. Address
2-11d E. W. HALE, Wirt C. H., W. Va.

SYMPHORICARPUS VULGARIS PLANTS.

During February and March, I will deliver on board the cars at Reeds, Mo., *Symphoricarpus vulgaris* plants, at the following rates, purchasers paying charges: 100 plants, \$1.25; 200, \$2.50; 500, \$5.25; 1000, \$10; 2000, \$19. Where ten dollars' worth are taken at one time, will take one-half the price in Italian queens at prices in GLEANINGS.

Address NORRIS C. HOOD,
3d Reeds, Jasper Co., Mo.

SEND FOR CIRCULAR

and Price List for Simplicity, and One-story Simplicity Chaff Hives. Address C. H. DEANE, Sr.,
2-5d Mortonsville, Woodford Co., Ky.

FOR FOUNDATION

MADE OF PURE BEESWAX,

3-5 Address JAS. A. NELSON, Wyandott, Kan.

1880. 1880.

ITALIAN QUEENS & NUCLEI.

Single Queen, Tested.....	\$2 00
Untested (Laying).....	1 00
Sent by mail.	
Nuclei, 1 frame, Langstroth size.....	2 00
" 2 " " ".....	2 50
" 3 " " ".....	3 00
Tested Queens, per doz.....	20 00
Untested " " ".....	10 00
Safe arrival guaranteed.	
Address W. P. HENDERSON,	
2-8 in q Murfreesboro, Tenn.	

J. M. Brooks & Bro's.
GOLDEN ITALIANS.

FINE TESTED QUEENS OUR SPECIALTY.

Send for circular and see what others say of them.
2-3d COLUMBUS, IND., BOX 64.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent before July 1st. If wanted sooner, see rates in price list.

*E. W. Hale, Wirt C. H. W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-31f
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	11fd
Miller & Hollam, Kewaskum, Wash Co., Wis.	4-4
*J. T. Wilson, Mortonsville, Woodford Co. Ky	4-4
J. L. Bowers, Berryville, Clarke Co., Va.	1-4
*King & White, New London, O.	12fd
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*J. R. Landes, Albion, Ashland Co., O.	11fd
*J. E. Walcher, Millersville, Christian Co., Ills.	1-6
*D. A. McCord, Oxford, Butler Co., O.	2-1
*D. E. Best, Best, Lehigh Co., Penn.	2-8
*A. S. Collins, New Orleans, La.	3-4
*A. Robinson, LaCade, Fayette Co., Ill.	3-8
*S. F. Newman, Norwalk, Huron Co., O.	31fd
*C. C. Vaughan, Columbia, Maury Co., Tenn.	31fd
*S. W. Salisbury, Kansas City, Jackson Co., Mo.	3-8
*J. M. C. Taylor, Lewistown, Fred. Co., Md.	3-4
*S. D. McLean & Son, Culleoka, Maury Co., Tenn.	3-8d
*S. D. Moore & Co., Atlanta, Fulton Co., Ga.	2-3
*Rev. A. Salisbury, Camargo, Douglas Co., Ill.	3
*T. G. McGaw, Monmouth, Warren Co., Ill.	3-8
*R. Thomson, Terry, Hinds Co., Miss.	3-8

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
H. Scovell, Columbus, Cherokee Co., Kans.	4-3
P. L. Viallon, Bayou Goula, Iberville Par., La.	11fd
Milo S. West, Pontiac, Oakland Co., Mich.	1-6
A. A. Fradenburg, Port Washington, Tus., Co., O.	1-6
T. F. Wittman, 318 N. 6th St., Camden, N. J.	31fd
S. F. Newman, Norwalk, Huron Co., O.	31fd
Sprunger Bro's, Berne, Adams Co., Ind.	3-2

Mollie Heath Honey Plant!

We have at last succeeded in getting some seed of this beautiful plant, which is described on page 148 of GLEANINGS for 1879. The seed is flat and bean-like. As we have but a few, in order to make them go around, we offer them postpaid, at 5 cents each. To Canada, 2 cents extra.

A. I. ROOT, Medina, Ohio.

ITALIAN BEES FOR 1880.

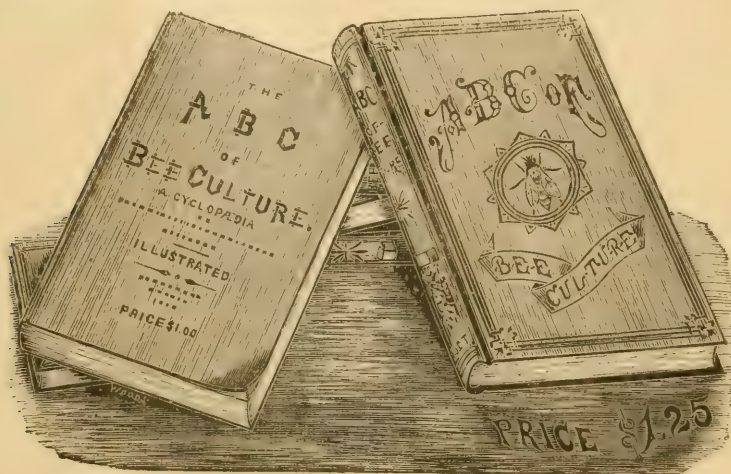
I will sell 3 frame nuclei, with tested queen, before June 20, for \$4.00; after June 20, \$3.50; after August 1, \$3.00. These nuclei will be well stocked with brood and bees, and contain young, profitable queens. *Cyprian Queens*.—I believe myself, so far, the only one in the U. S. who has these valuable and beautiful bees in purity. Descriptive Circulars sent free.

JULIUS HOFFMAN,
1-3 Fort Plain, Montgomery Co., N. Y.

SWEET HOME RASPBERRY.

Originated by D. D. Palmer, New Boston, Ill. 1050 berries picked from one cane. Never winter kills. The largest and best cap. Send for circular.

THE A B C of BEE CULTURE.



FOR several years, it has been my ambition to be able to write a book on bee culture, so clear and plain that not only any boy or girl, but even an old man or woman, with the book and a hive of bees, could learn modern bee culture, and make a fair, paying business, *even the first season*. This is a great undertaking, I grant; and it will require some one with far greater wisdom than mine, to do it the first time trying. After watching beginners, and answering their questions almost constantly, for years, I came to the conclusion, that the only way to do it was to "cut and try," as carpenters say, when they can't get the exact dimensions of the article they wish to make.

To cut and try on the A B C book, I have invested over \$2,000 in type, chases, etc., sufficient to keep my whole book standing constantly in type, that can be changed at a moment's notice. The books are printed only as fast as wanted, and just as soon as I see I have omitted anything, or have made any mistake, the correction is made before any more books are sent out. To show you how it works, and how it succeeds, I will give you an illustration.

A beginner writes to know if it is of any use to keep a queen, after she is eighteen days old and does not lay. Now I know very well that a queen should lay when from ten days to two weeks old; and also, that they will sometimes not commence until they are three weeks old, and then make good queens. Now, although I directed that they should be tossed up in the air, to see if their wings were good, when they did not lay at two weeks of age, I did not say, if their wings proved to be good, how long we should keep them. If I could spare the time of the colony, I would keep a good looking queen that could fly well, until she is 25 days old; if crowded for a place to put cells, I would kill all that do not lay at 18 or 20 days old.

I have just put the above in the A B C, and that is just the way I am going to keep doing. You see, you beginners are, ultimately, to build up the book.

It will tell you all about the latest improvements in securing and **Marketing Honey**, the new 1 **B. Section Honey Boxes**, making **Artificial Honey Comb**, **Candy for Bees**, **Bee Hunting**, **Artificial Swarming**, **Bee Moth**, all about **Hive Making**, **Diseases of Bees**, **Drones**, **How to Make an Extractor**, **Extracted Honey**, **Feeding and Feeders**, **Foul Brood**, **Honey Comb**, **Honey Dew**, **Hybrids**, **Italianizing**, **King Birds**, **The Locust Tree**, **Moving Bees**, **The Lamp Nursery**, **Mignonnette**, **Milkweed**, **Motherwort**, **Mustard**, **Nucleus**, **Pollen**, **Propolis**, **Queens**, **Rape**, **Raspberry**, **Ratan**, **Robbing**, **Rocky Mountain Bee Plant**, **Sage**, **Smokers**, including instructions for making with illustrations, **Soldering**, **Sourwood**, **Stings**, **Sumac**, **Spider Flower**, **Sunflower**, **Swarming**, **Teasel**, **Toads**, **Transferring**, **Turnip**, **Uniting Bees**, **Veils**, **Ventilation**, **Vinegar**, **Wax**, **Water for Bees**, **White-wood**, and **Wintering**. It also includes a **Glossary of Terms and Abbreviations** used in **Bee Culture**.

The book, as it is now, contains about 300 pages and about 200 Engravings.

Bound in paper, mailed for \$1.00. At wholesale, same price as GLEANINGS, with which it may be clubbed. One copy, \$1.00; 2 copies, \$1.90; three copies, \$2.75; five copies, \$4.00; ten copies, \$7.50.

The same, neatly bound in cloth, with the covers neatly embellished in embossing and gold, one copy, \$1.25; 2 copies, \$2.40; three copies, \$3.50; five copies, \$5.25; ten copies, \$10.00. If ordered by freight or express, the postage may be deducted, which will be 13c on the book in paper, and 16c each, on the book in cloth.

A. I. ROOT, Medina, O.

Contents of This Number.

Advertising	99
Tools	99
Early Amber Sugar Cane	104
How to Manage Robbing Bees	105
Cages for Queens to go by Mail	106
The Raspberry as a Honey Plant	109
Making Fdn. by the Single Operation of Dipping	109
Hurrah for Texas! Doolittle in the Shade	109
Leaky Covers	110
California Sage; Hoarhound as a Honey Plant	110
Something from Mr. Langstroth Once More; Pea Flour for Pollen	110
Building up Weak Colonies, and strengthening Feet to Stocks	111
Alsike Clover. — Foreign Seeds in it, and How to Get them Out; Some Excellent Hints on Sowing Seeds, in General	111
Chaff Packing, and Advantages of Keeping it on Late	112
How to stock an Apiary	113
California as a Bee-Keeping State. No. 5	114
Suspended Animation; Tea-Chest Matting for Covering the Frames	114
Improvement in Queens: That Red-Clover Queen; Double-Queen Stocks	115
Select Queen Rearing. No. 2	116

THE GROWLERY.

How Much Profit Shall be Allowed Those Who Take Subscriptions, &c.	103
--	-----

THE SMILERY.

LADIES' DEPARTMENT.	104
---------------------	-----

Report from a Feminine A B C Scholar; Artificial Pollen and Spring Dwindling; Wet Cloths to Prevent Robbing	112
---	-----

BOX-HIVE DEPARTMENT

HEADS OF GRAIN.

Frames All in one Piece: How Cheap Should we Get Wired Frames of Fdn.? Chaff Hives, by an A B C Scholar; Long Lived Queens; Alsike Clover; Honey from Red Clover	117
Grape Sugar That Will Kill Bees: A Home-made Wax Extractor; Anomalies in Science: "Visit" from an A B C Scholar; Moving Bees Often	118
Is Italian Brood "Catching"? What to Do with Odd-Sized Frames; Raising Bees and Letting Them Run Off; California; Toads; Hives on the Ground	119
Chaff Hives versus Cellar Wintering; Early Queens from the South; Simpson and Spider Plants; Teaching Bees to Gather Honey; Report from an A B C Scholar in Colorado; Honey from the Oak: Taking Bees out of a Tree in Jan.; New Zealand	120

Does confinement to the Hives Cause Dysentery? Keeping Extra Queens in Cages; Maple Sugar as a Substitute for Candy; Flat-bottomed Fdn. Starters. &c.	121
---	-----

The Simpson Honey Plant; Golden Rod Honey; The Red Clover Queen; Size of Entrances to Honey Boxes: An A B C Scholar's Report; Triangular Starters	122
---	-----

The Field of Gleanings; Second Generation from Imported Mothers; Ventilation for Simplicity Covers; Making Water Run off from Simplicity Covers; Drones in Jan.; Eggs Remaining Dormant, Doolittle's Theory; A Few Remarks on Queen Rearing, &c.	123
--	-----

To Prevent Covers from Leaking; Wabbling Saws and How to "Wabble" Them, without Collars; Fdn. Machine with Wood Rolls; Honey from Black Gum; Home-made Saw Mandrels; Dark versus Light Italians; Grape Sugar and Syrup; Spring Dwindling	124
--	-----

The Adams Horse-Power not a Failure; A Tasty Apiary; Mitchell Again; Spider and Simpson Plants Grown in Boxes; What an A B C Scholar Did; Buckwheat Sometimes a Failure; Cockroaches in Bee Hives; To Make Labels Adhere to Tin	125
---	-----

Do Queens ever Lay in a Finished Queen Cell? Fdn. with Square Collars; An A B C Scholar in Trouble; Queenless Hives in the spring; Handling Bees in Winter, Dead Bees in the Hive &c.	126
Transferring in the Fall; Candy for Bees; Was it an Accident?	127

NOTES AND QUERIES.

Grape Sugar Candy; Eight Frame Hives;	128
---------------------------------------	-----

Smut from a Straw Stack as a Pollen Substitute; Plank Hives versus Chaff Hives; Ink for the Chirograph; Laying Out an Apiary; A Uniform Length of Frames; The Family Grindstone; Drones in January; Why Did They Die?	128
What is the Matter with the Bees? Blacks and Hybrids. — Who Wants Them? When and How to Take Bees Out of the Cellar; Swarming Out in Spring; Alsike in New Hampshire; Blue Thistle; Stencil Plates for Marking Bee Hives; Italians and Hybrids versus Blacks; Planing-Mill Shavings for Packing	129
How to Get Spider and Simpson Plants; Honey Gathering in Jan. in Ohio; Blue Thistle, — A Caution; Saws That Are too Hard; Rubber Gloves; From California; Bearing Each Other's Burdens; Clark's Cold Blast Smoker; Fastening Combs for Transferring and Shipping; How Much do Bees Pay? Simpson and Spider Plants; Italianizing; Cutting out Drone Brood, &c.; The Short L. Frame Compared with the Gallup and the American Frame; Looks not Always a Safe Criterion; A Cheap Bee Feeder, — My Plan; How to Decoy Runaway Swarms; Oats for Bees; Grape Sugar Candy that Won't Harden; Bingham's Smokers; The New All-in-One-Piece Section; Age of Drones	130

EDITORIALS.

Managing Bees by Electricity; Handling Bees The Chirograph; Back for Prize Sections on the L. Hive; Syrup for Table use; Honor to Whom Honor is Due; Peet's Combination and Introducing Cage; Grape Sugar Protest against Disseminating Blue Thistle; Improvements in Smokers	131
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Feb. 28, Just before going to Press:—We have today, 3,939 subscribers, and 164 colonies of bees.—The maple-trees are dropping the sap on the grooved boards and the bees have learned to take it as fast as it falls. Maple sugar for feeding bees, is equal to any candy. I will pay from 7 to 8¢ per lb., according to quality, for any quantity delivered here—all of the seeds we now sell are put through an improved Seed Separator, bought expressly for the purpose, that we may not sell you foul seeds

ARE YOU INSURED?

Our friend Everett, of Toledo, O., has lost his home, factory, books and all, through carelessly letting his insurance run out. Oliver Foster, of Mount Vernon, Iowa, has lost in a similar way. Is not this a sufficient moral? In such a case, one ought to be troubled, and he ought to be troubled so that he cannot sleep nights, when his property is uninsured. Do you say you haven't the money? In that case, you certainly should be insured, for if you should burn out then, you probably could not build up again. Instead of saying you cannot get the money to pay for insurance, sell off a part of the property, at any sacrifice, and insure the remaining part. If you are well enough off, to stand being burned out, it is well enough to go without insurance if you choose, for this is equivalent to insuring yourself. In time of peace, prepare for war. My friend, what would you do if you should be burned out this very night? Are you prepared for it? God may find it necessary to punish us, and many times most severely, for letting these things go, and for not using proper precautions in any business which he may see fit to entrust to our care.

1880 Queens! Queens! 1880

Pure tested Italian queens, from choice imported mothers, April and May, \$2.50; afterwards, \$3.00. Untested queens, \$1.00. Safe arrival guaranteed by express. Send in your orders early, as I live 10 or 12 miles from the railroad. The mail comes twice a week to my apiary.
Y. S. HALL,
3-5d Fern Cliff, Jackson Co., Ala.

100 good Envelopes with your return address and business card printed thereon, only 50¢; 250 for \$1., postpaid. You need them. Address,
S. P. YODER, Victor, Ind.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

MARCH 1, 1880.

No. 3.

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 Per Annum, in Advance; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75c each. Single Number, 10c.

NOTES FROM THE BANNER APIARY.

No. 4.

ADVERTISING IN LOCAL PAPERS, WRITING BEE-KEEPING ARTICLES FOR THEM, ETC.

DURING the fore part of last season, one of our county papers contained my advertisement of hives, section boxes, etc. July 1st, the advertisement of hives was discontinued, and my Italian queen advertisement inserted in its place. I had seen a little advice in some back number of GLEANINGS, in regard to advertising in local papers; the writer ('twas Novice) said it didn't pay. If I had had to pay the cash, I should not have entertained the idea for a moment; but, during the leisure of the long winter evenings, I had prepared a series of bee-keeping articles, and, in exchange for these, the editor gave me a two inch space from April until Nov. This amount of advertising would have cost me, in cash, about \$10. I took pains in preparing these articles; they were not copied from bee books or papers, but were mostly my productions; I commenced with "Bee-keeping as a Pursuit," and went over the whole ground as faithfully as it is possible to do in short newspaper articles; and then, for the benefit of those who might wish to continue the subject still farther, I gave the addresses of four periodicals devoted to bee-culture. If these articles had been prepared during the busy season, the advertising that they brought would have been dear indeed.

Now for the results. My local advertising brought me just four customers, who purchased \$21.65 worth of hives, sections, queens, etc.; while, to my old customers and to new customers that were brought to me through the influence of my old customers I sold hives and sections to the amount of \$62.70.

I presume the trouble is simply this; the circulation of a county paper is, usually, not very large, and among its readers there are but few bee-keepers.

ADVERTISING IN GLEANINGS.

GLEANINGS for July contained my first ad. of Italian queens; and it was only a few days after receiving the number before orders began pouring in; how I did work trying to increase my queen rearing facilities so as to keep up with them! but it was of no use, I had to send back some of the money. "It came kind o' tough" though, to have to go to my book case, take out the little box in which I had packed away the money,—saving it to make a payment on my farm—take out some of the nice, rust-

ling bills, and send them back; but there was nothing wrong about it, nothing unfair, nothing but what I would wish to have a queen breeder do by myself if he could not send queens as soon as I wanted them. But when the drouth in Aug. came, then the orders began to "dry up" somewhat. During Sept. and Oct., I was ahead of orders most of the time; but when the season finally closed I had sold every queen.

Advertising in GLEANINGS, four months, cost me \$10.60, and brought me orders to the amount of \$167.19.

MY IDEAS OF ADVERTISING.

I would advertise in papers that are read mostly by the class of people to whom I expected to sell. I would have the heading to my advertisement in clear, bold type; or, if I could think of some really cute way of attracting attention, I might think that was all right; but, in the main I would have my advertisement plain and straight forward, with but little display. I know it is quite customary to exaggerate, but my advice would be "Don't;" if you must exaggerate, do it in filling orders; that is, do a little better by your customers than you have agreed to. Although I have not had very much experience in advertising, I believe I have discovered the secret of success,—hold your ear close while I whisper it—*There is no advertisement like a pleased customer.*

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

Friend H., I do not know whether you are a Christian by profession or not, but I do know that you are coming very near to being one in spirit. "Blessed are the pure in heart, for they shall see God." Go on, and, if you do not soon see God literally, you must soon feel his loving presence in your heart, as you practice and teach others these glorious precepts of his sacred word. I have wondered more than once, whether that household, consisting of you two and the little brown eyed strangers God has sent you, was being builded on that solid rock.

TOOLS.

I FOUND the following on a scrap of the *Mercantile Review*:

Some philosopher has somewhere defined man as "a tool using animal." Certainly if this definition be a correct one the American must be the most ad-

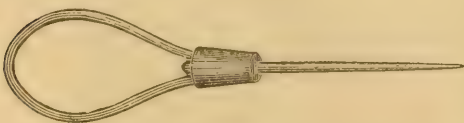
vanced people on the face of the globe, for even the babies seem to take to tools before they are well out of their cradles.

I do not know how it is with you, but it hits the nail on the head exactly at our house, and the "girl babies" seem almost as eager to crawl out of their cradles in pursuit of "tools," as do the boy babies.

Much has been said in favor of buying good tools, and while I appreciate the advantages of good tools as much as anybody, I wish to say something in regard to the economy of the tools that are being made of late, that cost but a very little money. A nice steel hammer is a fine thing to have, but there are a great many families in our land, where they have no hammer at all, and I do not know but they are right in saying they can not afford one. Well, since the wonderful improvements of late in working wood and iron, a very good, serviceable hammer, with a stout hickory handle, can be easily sold for 10c, at every country store. Such a family would find 10c invested in this way a boon indeed, and I am sure the baby would think more of it for a play thing than almost any toy you could buy for a dime. The furniture and fingers might catch a pounding, it is true, but the mechanical skill the child would gain would far outbalance the damage. The way I run across these hammers was in ordering some for our 10c. counter. I wanted a fair sized, tack hammer, but the maker was short of them, and sent 3 doz. full sized hammers, saying the price was the same. They cost \$7.20, per gross, *just 5c. each*. My wife says it is wicked to ask anybody to work for so little, and wonders if poor women and children are not half starved to enable them to sell goods so low. I am inclined to think not. And I do not know but that they are making good pay, and are glad to have orders at that figure. It was all the man asked for the goods.

We will consider some of these cheap tools alphabetically.

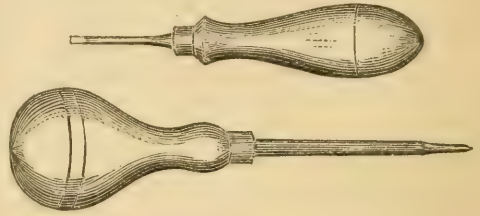
AWLS.—Almost every bee-keeper has use for scratch and brad awls, and our boys and girls require so many, and so often get those that are poorly tempered, or get broken easily, that I have devised a cheap, all-metal awl, that is always of perfect temper. Go to the store, and get a paper of the largest darning needles you can find. Fold a strip of tin about an inch wide (or get it done at a tin shop), so as to make the metal bars we use in the extractor and wired frames. When folded into a hollow metal rod, bend it so as to form a handle, like the cut below. Solder the needle between the ends, and you have it.



HOMEMADE, ALL-METAL, BRAD OR SCRATCH AWL.

If you want a brad awl, break off the point of the needle, and flatten two sides of the point, with a whet or grindstone. If you

break it, put in another needle. If you do not like this kind of a handle, very pretty, wood-handled awls can be purchased by the gross, so as to be sold on the 5c. counter. We give an engraving of one of each.



WOOD-HANDLED AWLS.

The brad awl answers excellently for piercing frames for wires, where but few are to be done.

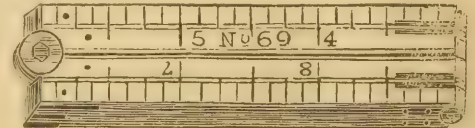
POCKET RULES AND MEASURES.

I thought when we got a nice, one-foot rule on the 10c counter, we had done a fine thing; but now we have a very pretty rule that does not fold up, for only 5c.



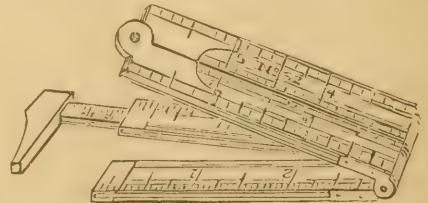
A FIVE CENT RULE.

Our engraver has given a picture of it above, but he left the figures off. I presume he did it because he thought he could not afford figures for only 5c, but they are plain and nice, on the 5c rule. The graduations and figures are cut in the wood, as on rules generally; but, on the yard stick, which is also sold at 5c, they are printed on a paper and pasted on.



THE TEN CENT POCKET RULE.

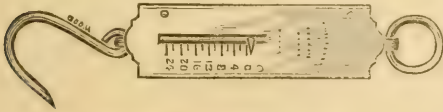
This folds up 4 times, and is as well made as those generally sold for 25 or 50c. The two-foot rule is just like it, and only 15c.



FIFTY CENT CALIPER RULE.

When you wish to get exactly the diameter of a round rod, or even the thickness of a board when you are setting your planer, it is difficult to get it exactly, without the caliper rule. These usually sell at 75c or a dollar, and I have not yet been able to give the manufacturer an order large enough to get them so as to sell them for less than 50c. As they are made with the working parts all of brass, the price is not very high. Every mechanic who makes any pretensions to accuracy should have a caliper rule. One almost

as good as the above, only folding twice, is furnished for 25c.



SCALES FOR WEIGHING.

These come right along with a rule, and a family without any kind of a thing to weigh with is liable to be imposed upon constantly, in selling as well as buying. When I carried one of the above little scales home and told my wife we were going to sell them for only ten cents, she gave me another good scolding for asking anybody to make so nice and handy a household implement for such a ridiculous price. Everybody said they could not be accurate, but we gave them careful tests, and not one has been found untruthful. They weigh 24 lbs. by 1 lb. graduations, but you can come within a 1/4 lb. by looking carefully. I much prefer them to the 50c pocket scale that has been advertised so much.



FIVE CENT SCISSORS.

Somebody from California sent for a pair of these, remarking that they must be pewter. Pewter would be altogether too expensive. They are made of the chilled cast-iron. Cast-iron and steel are shown, by modern science, to vary but little in composition, and, in the arts, we not only now cast steel into molds as we do iron, but we make cast-iron very nearly imitate steel. Send for a pair of these scissors, and see whether they are not like steel. I confess, when I first saw them, I was much surprised to see them really finely finished. I had expected something like the cheap iron goods we used to get from Germany; but these are of American make, and finished in black japan, so as to look as if they might be worth 50c, instead of 5. We have them both with round points, so they can be carried in the pocket, or given to the baby for a plaything, and with the usual sharp points used by ladies. They are made of two sizes, and the large ones are just as cheap as the small. For 10c., you can get a good sized pair of shears made in the same way. My wife's sister says she has been using a pair, and that they seem to do just as good service as any shears. I will tell you one trouble with them. Do you know why many edged tools are made of iron and faced with steel, instead of being all steel? If made all of steel, they would be in danger of breaking during the tempering process, as well as ever afterward, but by having all except the cutting edges made of soft iron, the steel is held from snapping as it might otherwise do. Well these cheap scissors and shears are all hard, and consequently brittle, and I have seen them break in pieces like glass, when simply drop-

ped on the floor. Well, suppose they do; they cost so little you can get a half dozen pair, and when one breaks go to the drawer and get another. I can get you very nice, steel faced shears, of good size, for 50c., but I have not yet been able to get any real steel shears for the 25c. counter. We have some steel scissors for 25c., but they are very small, and sold at a close profit. An excellent pair of pruning shears, having iron handles and fine steel cutting surfaces, is made for 50c.

PLIERS FOR BEE-KEEPERS.

I have been so accustomed to having pliers within easy reach all my life, that I scarcely know what to do without them. Last night, in our electrical experiments with my class of boys, I wanted to bend a loop on some copper wire. I sung out to my wife in another room,

"Sue, have you no pliers in the house?"

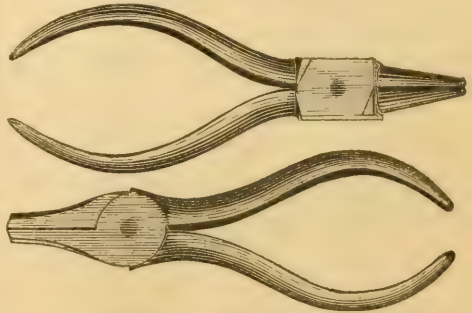
"None at all."

"Have you never had any?"

"Never."

"Why, how in the world *do* you get along?"

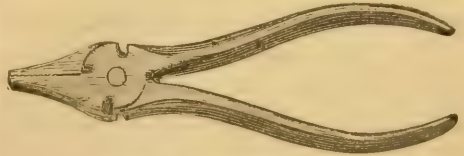
I got the wire bent, but I hurt my fingers and teeth, and took a long time to do it besides. For several years I have been looking for some good pliers, for a low price, say 25c, and I have just found them. See:



PLIERS FOR BEE KEEPERS.

Either of the above, flat nose or round nose, can be sold for 25c. They are 4 inches long, of good steel, and are extremely well made for the money.

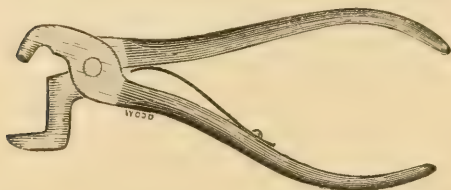
Cutting pliers are always very expensive, and are almost always being broken besides. A very pretty tool for cutting wire has lately been invented, and, as it combines with it a most excellent flat nosed plier, I should think it quite an acquisition, were it not for the price.



WIRE SHEARS AND PLIERS COMBINED.

These are 4 1/2 inches long, of excellent steel and temper, and beautifully finished. They are patented, and the inventor, for that reason, holds them so high that I can not possibly sell them for less than 75c each. If he would throw away his patent and sell them

for 25c each, he might build a big factory, get rich perhaps, and benefit his fellows besides. As it is, he only sells dozens, where he might sell thousands.



PLIERS FOR SETTING TACKS INTO FRAMES, IN TRANSFERRING.

One of our readers sent a drawing of the above, but, after our engraver got it done, we could not find the letter. If the owner will tell his name and send a description again, I will try never to do so again. Tacks can be set with this very rapidly, without any jar, and, where wooden strips are used to fasten in the combs, it is very convenient; I have used large sized, ordinary pliers for the same purpose.

Another friend sends the tool shown below, but nothing came with it, to give any clue as to whom it came from, except a bit of paper with the words given below the cut.



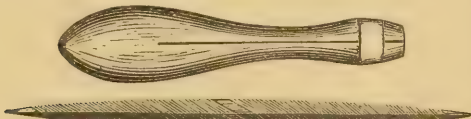
Mr. Root:—This tool is for coring apples, cutting holes in honey comb, cutting out queen cells, &c.



COES' ADJUSTABLE WRENCH.

You all know what a handy tool a good wrench is. Well, I have been able to get a real Coes' Adjustable Wrench, to sell at 25c. But with the present advances on hardware, I do not know how long I shall be able to do so. It is 6 inches in length.

Here is something else I think a great deal of.

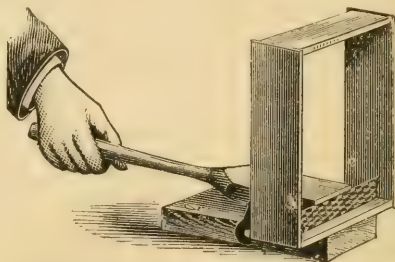


DOUBLE-ENDER FILE, FOR CUT-OFF SAWS.

The file is extra long, and is cut on both ends, so as to have nearly the surface of two files, while the price is 10c., the usual price for a common file. Now some folks will try to file a saw without any handle to their file, but I think it is a waste of time, although they do get along so.

Well, with this double-ender file, we want a handle easily put on and taken off, and it is accomplished by splitting the handle into three equal parts, and then slipping a stout rubber band, or ferule rather, into a groove

cut in the usual place for a ferule. This always allows a file to go in, even if they are not all of a size, and it is held very firmly, so it can neither get loose or "wobble,"—you know I always get mad when tools wiggle in the handles, and threaten to come out. I can put this very nice file handle, rubber ferule, and all, on our 5c. counter; aren't you glad? Larger handles of the same kind, on the 10c. counter.



PARKER'S MACHINE FOR FASTENING STARTERS IN SECTION BOXES.

Directions for using.—Fasten machine to a bench or table; put a little honey on point of lever where it touches the foundation; slide box under lever, against stop; put foundation under $\frac{1}{4}$ inch; raise back end of lever at same time turning the piece of foundation up against end of lever; slide lever off the foundation, which movement fastens it firmly to the box. With a little practice the machine can be made to work very satisfactorily.

Price of machine by mail, 65c; by express, 50c.

W. D. PARKER, Defiance, Ohio.

After letting our boys and girls use it awhile, I offered friend P. \$5.00 for the privilege of making them for sale. He has accepted the offer, and we are going to furnish them for 25c. each, for our Simplicity section. If you want a larger size, we shall have to charge about 50c., because it is so much more trouble to make an odd size, one at a time. I confess I am very glad to leave out the melted wax, for I always feared some of you would daub it about. If sent by mail, the price will be 40c.

CIRCULARS AND PRICE-LISTS OF BEE-KEEPERS' SUPPLIES RECEIVED DURING THE PAST MONTH.

THE FOLLOWING ARE ON A POSTAL CARD.

E. M. Hayhurst, Kansas City, Mo.; E. B. Plunket, Atlanta, Ga.

SINGLE-LEAF CIRCULARS.

Thos. C. Stanley, Jeffersonville, Wayne Co., Ill.; Bartlett & Finch, Strongsville, Cuyahoga Co., O.; F. L. Wright, Plainfield, Mich.; Hiram Roop, Carson City, Montcalm Co., Mich.; J. M. C. Taylor, Lewisville, Fred. Co., Md.; A. H. Doolittle, Ouaquaga, N.Y.; H. Wilhelm, New Freedom, York Co., Pa.; L. S. Soules, North La Crosse, Wis.; O. H. Townsend, Hubbardston, Ionia Co., Mich.; J. S. Woodburn, Newville, Cumberland Co., Pa.; this last is a good sized sheet, and contains some very valuable information, besides the price-list.

TWO-LEAF CIRCULARS.

A. F. Stauffer, Sterling, Ill.; A. W. Cheney, Orange, Franklin Co., Mass.; J. C. Deem, Knightstown, Henry Co., Ind.; C. H. Deane, Sr., Mortonstown, Woodford Co., Ky.; J. W. Chandler, Williamstown, Ont.

FOUR-LEAF CIRCULARS.

J. H. Thornburg, Winchester, Randolph Co., Ind.; D. Staples & Son, Columbia, Tenn.; J. M. Brooks & Bro's, Columbus, Ind.; S. D. Buell & Co., Union City, Mich.

CIRCULARS OF FROM 12 TO 40 PAGES.

F. A. Snell, Millidgeville, Carroll Co., Ill.; J. Oatman & Sons, Dundee, Ill.; A. E. Manum, Bristol, Vt.; G. P. McDougal, Indianapolis, Ind.; H. A. Burch & Co., South Haven, Mich.

The "Growlery."

[This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule we will omit names and addresses, to avoid being too personal.]

HOW MUCH PROFIT SHALL BE ALLOWED THOSE WHO TAKE SUBSCRIPTIONS, ETC.?

By the bye, friend Root, it seems to me that if you take such an interest in the pecuniary affairs of your subscribers as you pretend, in the Home Papers, to do, you might at least furnish the magazine which contains those papers to single subscribers as cheap as any outsider can furnish it.

GEO. W. JONES.

West Bend, Wis., Jan. 13, 1880.

Well done, friend J.! You have hit right squarely on the head a much-vexed question. When I fixed the price of GLEANINGS at \$1. I decided that those who worked to get subscribers would want some pay for their services. If I asked one of you to please carry a copy of GLEANINGS round to your neighbors who keep bees, and to take time to explain its good qualities to them, show its pictures, etc., and ask them to subscribe, I should expect to offer to pay you for so doing. How much ought I to offer? If you took your neighbor's money, bought a P. O. order so as to send it to me safely, and do all the corresponding, I thought 25 c. would be about right, or to allow you to retain $\frac{1}{2}$ of all the money you collected. To make it a little more of an object for some leading man in every neighborhood to canvass the bee keepers for a few miles around, I agreed to make the price 60 c. for a club of 10 names. This offer is not more liberal than many publishers make, and on many accounts it seems about right. Well, since these days of sharp competition in furnishing staple articles, there has been much "cutting under," and agents are offering many periodicals at $\frac{1}{2}$, or less, of the publishers' prices. They do not go around to the houses as publishers originally intended they should, but they do the business through the mails. Without explaining the magazine at all, or showing the pictures, they simply get the publisher's customers away from him by telling them, "I'll sell it cheaper." GLEANINGS would now be advertised at 75 c. in these very columns, had I not refused the advertisement. Why don't I let them do so, and sell it for 75c. myself? Why, if I charged one man but 75c., I must do the same with all, and then my hard working friends who travel around in the mud and show GLEANINGS and explain its merits, would stop in disgust, and say, "You can keep your old paper, and get subscribers yourself, if you cannot pay a body decent wages for investing his time and money." I do not like to ask people to work for me, without paying them, and, for such work, I like to be able to pay them liberally. I am obliged to have one price, and to adhere to my printed rules, or you would have good reason to call me dishonest. Several times, we have received 75c., with the request to send GLEANINGS one year for it,

as others do, or return the money. Of course, I had no choice but to return the money, sent for a single subscription. You see, my friends, there are two extremes to be avoided. One thing seems to indicate that I have given too broad a margin to canvassers; and it is that so many of them are offering the paper for less than a dollar. In doing this, they virtually say, "we can afford to work for GLEANINGS for less than 40c. a subscriber," and so many have offered to take names for 75c., that I have about concluded that 25 per cent off from the publisher's price would be about right. This would leave little margin for presents, and premiums, it is true, but would it not be better to have the paper published for what it is itself worth, and not for the presents that are offered with it? When I say "better," I mean better for readers and all, and not especially for the publisher's pocket. Friend Jones, I was almost converted before, and I do not know but that you have hastened the crisis. I cannot well put the price of GLEANINGS down, but I can enlarge it, put more room between the lines, use larger type, make it easier for those with old eyes to read it, and then have the discount so small that there will be less temptation to offer it at less than the regular prices. Friend Jones, I do not think agents will offer GLEANINGS very much less than I do, next year.

MR. ROOT:—In reply to your kind letter in the Growlery, I will ask, as I have always paid you \$1.00 a year for GLEANINGS, how is it that Mr. Doolittle will furnish GLEANINGS for 75 cents? After you sent back 90 c. of the \$1.00 that I sent you for GLEANINGS, Mr. Doolittle sent me his circular, and so I sent for GLEANINGS to him, and have just read the Feb. No. Now, Mr. Root, you carry the idea, in GLEANINGS, that you are working for the benefit of your subscribers; but does this look like it? If \$1.00 per year is the least that you can furnish single numbers of GLEANINGS for, why not tell your readers that they can get it of Mr. Doolittle for 75 cts. (for by their fruits ye shall know them)? To talk religion and act religion are two things.

As regards those corners, if you will tell me the price of a single set, I will send the money to you. The postage that you spoke about was sent, I believe. I do not wish to have you feel that I am in debt to you, as you seem to carry that idea. I wish to pay you all up, so that we can part friends. Hoping to hear from you in March No. of GLEANINGS, I am —

Yours respectfully,

HENRY SMITH.

Brooklyn, Wis., Feb. 7, 1880.

Now, friend S., you have certainly got me into a corner; in fact, I do not just now see that you have left scarcely a chance for me to even "wiggle." I certainly do wish to help my readers to get their supplies at the very lowest possible figure, and therefore, as I can not furnish GLEANINGS for less than a dollar, it is unquestionably my duty to advise you all to send your money to my friend Doolittle. I went home and told my wife about it, and she says the trouble comes from my decision, long ago, to make so low rates to those who buy at wholesale. Says she: "If I go to the store to buy a spool of thread, the price is 5 cents; and if I take a whole

dozen, the price is still 5 cents; and so on for any number. Nearly the same is true of cotton cloth, flour, and a host of other staples. GLEANINGS is now getting to be a staple that a great many people want, and it is your duty to furnish it as low as you can, to all alike, making the retail price so near the wholesale, that those who work for large clubs will not be tempted to take single names for less than you do."

I thank you both, my friends, for pointing out to me the errors in my business, and hope you, friend S., will accept an apology, if, in our last number, I seemed uncourteous to a customer. I assure you, I mean to discuss all these matters, even in the Growler, in a friendly and neighborly way. It is so natural to be a little selfish, I am afraid it will always crop out with me more or less. You see GLEANINGS is enlarged, and the lowest club price 75 cents. If that don't do, we will enlarge again and make it 85 cents; and so on until everybody charges \$1.00 for it, as they do 5 cents for a spool of thread.

The "Smilery."

This department was suggested by one of the clerks, as an opposition to the "Growler." I think I shall venture to give names in full here.

I AM just in receipt of the much prized GLEANINGS, and 4 papers of seeds ordered; also your postal bringing your liberal offer, which I do not think it right to accept, as the law provides postal means of safety to all parties sending money, and I cannot see why you should suffer for my neglect; so I send, by postal order, \$1.20, and if the other turns up, place it to my credit, and it will come right when I order again from you. I cannot refrain from saying that it is a pleasure to do business with a man who tries to have all satisfactory, though it costs some money. UPSON BUSHNELL.

Gustavus, O., Jan. 28, 1880.

Well, I declare, friend B., I can most heartily return the compliment. It is certainly a pleasure to do business with a man like yourself, who insists on bearing the whole of the loss, when money never reaches us. I try not to be very hard to get along with, but when some of the friends say they have sent the money once, and won't send any more, not even half of it, even though I did send the goods without having got even a copper for them, I have felt just a little discouraged. I dislike to say right out positively that I will not be responsible for any money hereafter sent in unregistered letters, and your kind letter helps me to feel that I shall not have to say so. I am sorry to be obliged to say it, but it looks now, my friends, as if there is another brother somewhere so lost to all good impulses, as to be appropriating our money again.

I would have written before this, but was anxious to inspect the hives and fixings before I wrote, in order that I might tell you how I was pleased. It certainly ought to make you feel glad indeed, when you fill an order so successfully as you have mine. I have had my hives all put up, and not a stroke of

any kind was hit upon them, with any tool except the hammer. No planing was needed; all parts fit to perfection. The carpenter that put mine together, I am satisfied, could put together at least 25 in a day. I am very much pleased with your packing arrangements. The freight, I think, was reasonable, especially on the hives. J. D. FOOSHE.

Greenwood, Abbeville Co., S. C., Jan., 1880.

THE EARLY AMBER SUGAR CANE.

WHEN SUGAR IS REQUIRED TO FEED OUR BEES, SHALL WE BUY IT, OR RAISE IT?

THE following letters indicate the widespread interest in this new industry, and also that the cane seems to succeed all the way from Canada to Texas. It seems to produce sugar, too, in all the localities, and almost without an effort.

You asked me to send you a sample of my "Amber Cane" seed. I will enclose a small sample, and also a sample of the sugar that is gradually forming in the molasses. I made no attempt at making sugar. I had the cane made into molasses by another man, in August, during the hottest weather. I got my seed from the north last year. We have no machinery here for making or clarifying sugar, other than sorghum mills, and pan. The sugar sent is taken from the molasses, and pressed in a cloth to dry it. I have about 3 pks. of seed. I can supply seed at 8c. per lb., the purchaser paying postage or freight.

J. G. FITZGERALD.

Brookston, Tex., Feb. 10, 1880.

The sugar received is beautiful, and will answer for feeding bees or anything else. I would take all your seed, friend F., were it not for the expense of shipping so great a distance. I presume our readers will take all you have by mail, at the price you mention, very quickly.

BEES AND SUGAR CANE MILLS.

I have read the articles given from time to time in GLEANINGS, about cane sugar, and bees visiting sorghum mills. I am interested in the subjects mentioned, as I own a mill, and have run it two years, working several different kinds of cane, and among them the Early Amber. I have noticed that this kind will grain more readily than any other, but I have never tried to make sugar of it. My experience differs greatly from that of J. L. Wolfenden (see p. 57, Feb. GLEANINGS); for, in my short experience of two years, I have not seen bees to exceed 25, about the mill, and my apparatus is not over 200 yards from the apiary. I have also visited several other mills, and have seen no bees about them. I have seen yellow jackets, and a kind of large miller, by the thousands, much to my discomfiture, or disgust rather. I don't boast that my experience will be the same the coming season, for I may have to shut up shop and leave.

T. J. COOK.

Newpoint, Ind., Feb. 7, 1880.

I presume your bees, friend C., would not go near the cane mills, because they were gathering honey at the time, and this makes all the difference in the reports. Our bees will not notice the cider mills, when they are getting honey from natural sources, and I have known them suddenly desert the grapes and cider mill, when honey began to come again.

YIELD PER ACRE.

You think any sugar that will grain will do to feed to bees, and seem to think your friend, Mr. Bennett, has some new kind of cane. Well perhaps he has, but we have the same kind, I think, for it grains very readily after being made into molasses; but, as to making 20 bbl. per acre, I think it a rather large average. We have had some little experience in this matter for the past season, as we made 3,300 gal. We cannot tell how many acres are required to raise that amount as it was worked for different parties, but we think it averaged about 150 gal. per acre. Our mill is only about 7 rods from our bees, but they do not bother, as long as they can find anything else to work on. To make a covering for our works would cost a great deal as we occupy more than $\frac{1}{2}$ acre; so you need not go west, unless you go beyond this. I think I will try the syrup with one hive in the spring, in order to start brood early; for then there will probably be no danger in feeding it.

B. F. COWGILL.

Villisca, Iowa, Dec. 29, 1879.

SORGHUM SAFE FOOD FOR BEES.

The Amber Sugar Cane seed, as sent me in 5c. packages, has been raised here by acres, and 4 mills manufacture it within $4\frac{1}{2}$ miles of our place. 175 gal. per acre is very good. I fed 200 gal. sorghum in 1864, with good results.

JESSE OREN.

La Porte City, Iowa, Feb. 17, 1880.

Was it in the spring or fall that you fed this quantity safely, friend O.? and was it not a pretty nice article?

WHICH IS CHEAPER, GRAPE SUGAR OR SORGHUM?

Which will be the cheaper for feeding bees in the spring, sorghum syrup at 35c. per gal. weighing 11 lb., or grape sugar at what it will probably cost to get it from Davenport? I never heard of sorghum as feed for bees until lately, and I am not sure now that it will not kill them.

You seem to be surprised that sugar can be made from our sorghum. I never knew it to fail to granulate, if boiled down thick, without burning. Our barrel always has a great quantity of sugar at the bottom, but it is abominably black or brown stuff, and no amount of draining would take the corn or sorghum taste out of it. However, there are many who like it, and a great deal is grown and manufactured here. We have also what is called the "Early Amber Sugar Cane," superior, I think, to any other kind. Still it will never make a sugar that will pass for coffee A. as yours does.

Do you think this sugar that lies a foot thick or more in the bottom of our molasses barrel would make better bee-feed, if taken out and drained from a bag, or the like? and will it do to feed it before vegetation starts, if I set my bees out so early?

I am feeding several swarms now, with white-sugar candy in plates inverted over the frames, as you recommend. (Let me say here that this one idea which I got in GLEANINGS has been worth more than a dollar to me.) I cover the plate, as I do the whole hive, with plenty of cloth, and the bees stick to the candy until it is about all gone. The above mentioned colonies were late September swarms that gathered little or no honey.

C. R. MILES.

Pawnee City, Pawnee Co., Neb., Jan. 14, '80.

Grape sugar, when melted without the addition of any water at all, makes a very thick syrup. The Davenport sugar can now be bought by the barrel at 34c. If a gallon of

the sorghum weighs 11 lb., it costs a trifle less than the grape sugar syrup. Which is worth the more? One is principally cane sugar, and the other principally grape sugar. Without any accurate experiments, I should call cane sugar worth twice as much as grape sugar for feeding bees. This would be largely in favor of the sorghum, to say nothing of the cost of getting the grape sugar from the factory. The great danger in raising our own bee feed is that so many will kill their bees with a poor article fed in the fall; whereas, if they bought good sugar they would save them. To be sure the grained sugar is better than the syrup, but neither will do any harm if fed during weather permitting them to fly freely. Any grained sugar can be made white by the usual modes of clarifying cane or even maple sugar.

OUR HONEY EXTRACTORS AS CENTRIFUGAL MACHINES.

Press the syrup out as a friend mentions above, and, if you want it still whiter, wash it with warm water, squeezing the water out quickly, or throwing it out with your honey extractor, which, by the way, will make a very good centrifugal machine for small amounts of sugar. Several samples of beautiful sugar have been sent, and I like it almost as well as new maple sugar stirred off dry.

COST OF APPARATUS FOR SUGAR MAKING.

Will you please give us the price of press, to express the juice from sugar cane, and a cut so we can make one. If I ask any one to send with me for seed, he asks what a press will cost.

S. Cuyler, N. Y., Jan. 27, '80. G. H. C. POTTER.

Iron rolls are used for expressing the juice, and they cost all the way from \$25.00 upward. A suitable pan will cost as much more, and the centrifugal machines for making dry sugar are mentioned in the book on sugar making, at \$40.00. Of course not every one who raises the cane is expected to have a mill, but one mill does all the work for all those who raise cane for miles around. I think the book on the Early Amber Sugar Cane will be well worth the price to all who are going to try it. The publishers price is \$1.00; but I have purchased a hundred of him, and got them so low that I will supply our readers for only 75c., a book nicely bound in cloth, sent by mail, and a paper of Early Amber sugar thrown in, to show you what it is like. Isn't that liberal?

THE EARLY AMBER IN CANADA.

I have been somewhat interested in the remarks about the Early Amber Sugar Cane, but fear, as you remark, that the making of syrup and sugar, and bee-keeping, cannot well be combined. It is a remarkable coincidence that some Amber cane was grown in this neighborhood last season, as a forage plant, by a Mr. Bennett, and it attained a height of eleven feet. It was planted June 12th, and cut Sept. 22d, at which time we had severe frost, and it was then quite green.

W. P. TAYLOR.

Fitzroy Harbor, Ont., Can., Feb. 10, '80.

I have been manipulating sorghum for over 20 years, and do not recollect ever seeing a bee about my mill.

R. ROBINSON.

Laclede, Fayette Co., Ill., Feb. 9, 1880.

HOW TO MANAGE BEES WHEN THEY GET ON A ROBBING RAID.

I NOTICE, in the February No., Mr. Wolfenden's troubles with a sorghum mill. It may interest your readers, and possibly be a help to somebody, to know a little of the similar tribulations experienced by myself last fall, with a small apiary of 17 colonies.

By way of preface, I may say that, in our large family of nearly 300 persons, when we have honey on our table, from 50 to 60% are consumed at a meal; and, that all may be accommodated as to time, our tables are kept set for about two hours at each meal. Well, one day during the very warm weather of last October, honey was served at noon. Our dining-room being within 50 rods of the apiary, and the windows all open, just before the close of the long dining-hour, we began to be visited so liberally by the bees, that it was necessary to hurry the last of the honey from the tables, and from the room.

Having thus whetted their appetites for stolen goods, the next day, these beautiful and, in many respects, praise worthy insects, made a raid on the large fruit-packing establishment an eighth of a mile away, and were soon drowning by thousands in the hot syrups, besides making themselves an intolerable nuisance to the workmen employed there. For a day or two, it was a serious question what to do,—how to control and save them. As we had no convenient cellar in which to put them, the first night I shut them securely in their hives, as I supposed, giving them ventilation at top and bottom. The next morning, however, the bees from several of the colonies had found their way out, and gone straight for the packing-room; and those still imprisoned kept up such an awful roaring that, as the least of two evils, I opened all the hives again about sunset, when the bees poured out and started for the packing-room, many of them never to return. Besides this, their confinement in such hot weather, and consequent excitement, occasioned the death of not a few.

Once more, when night came, I shut "my pets" in, and though they manifested great uneasiness, kept them confined this time until *dusk* of the following day, when I again opened every hive, and they immediately struck out for the fruit-room.

After 3 days of such experimenting and loss, with the mercury indicating 75° to 80°, I concluded that some new course must be adopted, if I would save my bees in condition for wintering. This is what I did, and it proved a success: Early on the fourth morning, on the suggestion of a friend, I had in front of the apiary several empty sugar barrels, the insides of which were incrustated with dry sugar. These I sprinkled with water to moisten the sugar. The bees took the bait and staid at home. After they had taken every particle of sugar from the barrels, I still continued sprinkling them several times a day, with diluted syrup, and kept up this practice for 8 or 9 days, when I gradually left it off, and the bees went to work on the golden rod and asters, and did not again trouble the packing room.

My colonies did not need feeding particularly, and the above practice did not add much to their stores; but it kept them busy and out of mischief, and started breeding some, so that I think they regained all they had lost. They were out for a fly three times during the month of January.

S. R. LEONARD.

Community, N. Y., Feb. 9, 1880.

P. S.—After having the barrels out one day, I noticed that for some reason one of them was patronized but very little by the bees. On close inspection, I found it to be a *salt* barrel. It looked about like the others, however, the inside apparently coated with white sugar.

S. R. L.

The above gives a very vivid illustration of the importance of being very careful to stop all such work, the very minute it commences. Had the first bee that made its appearance in the dining room been driven out, or promptly killed if it had got loaded up unnoticed, it would very likely have prevented the whole annoyance all around. I am inclined to think the barrels of sugar hardly deserve all the credit, for I know that it is quite a task to draw a whole apiary from such a place, even with sugar. Besides, with a hundred colonies or more, it would take more sugar to keep it up all day long, than most apiarists would want to buy. I have had a similar experience in sugar feeding to keep the bees away from the cider mill, and I know what a relief it was when honey came from natural sources, to call the bees away.

CAGES FOR QUEENS TO GO BY MAIL.

EVEN while we were sending queens by mail, I had reason many times, to think the department had pretty good grounds to rule them out as they did, and the idea of a double wire cloth, at one time, suggested itself to me very forcibly, when I got a sting, by putting my fingers on the wire cloth, in handling a cage. Our clerks have been stung in the same way, and I presume it comes about by catching on the foot of one of the little fellows as it accidentally comes through the wire cloth. Of course we do not mind a sting here, but nervous people employed in the mails have a right to be protected, and most assuredly should be. Nasty, dauby cages and packages have many times been sent me containing queens, and now comes the question as to how we shall best hold the permit the department has granted us. The following in regard to the matter was sent me by Prof. Cook:

Dear Friend Root:—Please put the below in next GLEANINGS, or else use it as a text for something stronger and better. Unless caution is practiced by breeders and shippers, we shall lose what we have gained, and we shall find it very hard to secure it a second time.

A. J. Cook.

MAILING QUEEN BEES.

Until within the last few years there was no rule against sending bees through the mails, and owing to the cheapness and safety of this method of transportation the postal service was freely used by those engaged in this traffic, very greatly to the advantage of those who wished to secure the more excellent Italian bees.

A few years since the postoffice department refused the use of the mails for this purpose. There were doubtless good reasons for this order. Honey was placed in the boxes to serve as food for the bees during their transit. Often, owing to the kind of food and carelessness in the method of placing it in the shipping cages, the honey escaped and daubed the mails, greatly to the vexation of the mail agents and

owners of the mail. Nor was this the chief grievance. Owing to the faulty cages the agents were frequently stung by the bees, while many others who saw the bees just behind a single wire gauze suffered nearly as much from a perhaps not wholly causeless fear that they might be.

This ruling of the postoffice department was felt to be a severe blow to this important industry. The expense of transportation was not only much increased, but frequently in thinly settled sections, where express offices were still strangers, it was fatal to the introduction of improved bees.

Editors' state associations and individuals all besought the postmaster general to rescind this order, which worked so serious an injury to the bee-keeping interests of the country, but urged in vain.

At the last meeting of the National Bee-keepers' Association, Prof. A. J. Cook of our agricultural college was appointed to make an appeal in person to the postoffice department. Prof. Cook represented to the department the magnitude of the bee-interest in the United States, the superior excellence of Italian bees, and the consequent importance that they should be freely imported into every state and county. He also showed how serious an obstacle the ruling of the postoffice department was, especially in the west and south, where a limited population made express offices rare and distant. He further demonstrated that, while the methods of shipping in the past might have been attended with injury and inconvenience, the improved methods and shipping cages of to-day were of such a character as to obviate these objections. Cages were presented for inspection, which contained sugar as a feed for the bees, and a double wire screen, the gauze surfaces being one-fourth inch apart, so that no bee could sting the person who might handle the cage.

After due consideration, the department addressed the following communication to the Hon. Edwin Willits, representative from Michigan, who deserves the thanks of all bee-keepers for his interest in the matter and his efforts to secure a favorable decision:

POSTOFFICE DEPARTMENT.

OFFICE OF THE FIRST ASST P. M. GEN.,
WASHINGTON, D. C., January 14, 1880.

Hon. Edwin Willits, M. C., House of Representatives,
Washington, D. C.

SIR—The postmaster general having heard the statements of the representatives of the bee-keepers' association respecting the ruling of the department which excludes queen bees from the mails, and having become satisfied that such ruling is seriously affecting an interest rapidly assuming large proportions, which interest in many localities is practically denied the use of any facilities of intercommunication has consented to a temporary suspension of the ruling.

Instructions will be given in the next number of the United States official postal guide to carry this decision into effect. It is suggested that the bee-keepers of the United States be informed through the various bee-keepers' associations that the length of time this suspension will continue in force will depend entirely upon the fact that no harm shall result to any persons engaged in handling the mails, from the transmission of queen bees and their necessary attendants, and the necessity which exists therefore for the adoption of a box or cage which shall conform as far as possible to the provisions of section 223 of the laws and regulations, with the additional security of a double wire or perforated tin screen for cover, after the manner of the one submitted by Prof. Cook, the representative of the national bee-keepers' association.

Very respectfully,

JAMES H. MARR.

For First Assistant Postmaster General.

Thus it will be seen that this important concession is provisional. We would strongly urge upon all

breeders and shippers of queens to use only such cages as are indicated above, if they send through the mails. These cages can be made for a few cents, and can be sent through the mails for two cents. So the whole cost would be less than the simple express charges alone. Any person who will endanger the continuance of this privilege by mailing queens fed with honey or without a double-walled screen, is doing serious damage to the bee business and should be quickly exposed by those who receive the queens. With reasonable care we may rest secure in our present advantage.

The following is an extract from the latest postal guide:

235. The Postmaster General has consented to a temporary suspension of the ruling excluding "queen bees" from being sent in the mails; but when offered for mailing they must be put up in accordance with section 223, and so soon as they are found to injure the person of any one handling the mails, or soil the contents of the mail pouches, this order will be rescinded.

We also copy section 223, referred to:

PRECAUTIONS AGAINST INJURY TO THE MAILS.

Sec. 223. Other articles of the fourth class which, unless properly secured, might destroy, deface, or otherwise damage the contents of the mail-bag, or harm the person of any one engaged in the postal service, may be transmitted in the mails when they conform to the following conditions:

1st. They must be placed in a bag, box, or removable envelope made of paper, cloth, or parchment.

2d. Such bag, box, or envelope must again be placed in a box or tube made of metal or some hard wood, with sliding clasp, or screw lid.

3d. In case of articles liable to break, the inside box, bag, or envelope must be surrounded by sawdust, cotton, or spongy substance.

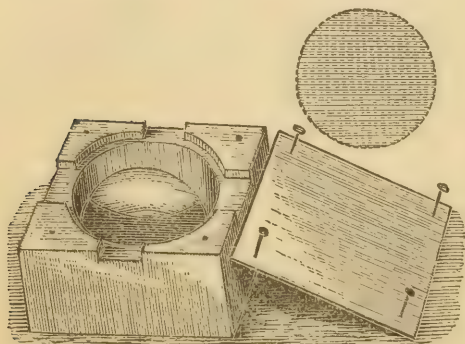
4th. In case of sharp-pointed instruments, the points must be capped or encased, so that they may not by any means be liable to cut through their inclosure, and where they have blades, such blades must be bound with wire, so that they shall remain firmly attached to each other.

5th. The whole must be capable of easy inspection. Sticks, or other articles not prohibited, which are liable, from their form or nature, to loss or damage, unless specially protected, may be put up in sealed envelopes, provided such envelopes are made of material sufficiently transparent to show the contents clearly, without opening.

The cage must, in view of the above, be not only perfectly protected, but it must be strong. Something is demanded that you can whack across the room and back again, without injury, or it will stand a chance of being crushed or broken, and then we shall be ruled out again. I do not know how a much stronger box can be made, than on the plan of our queen cages, given in the A B C. We shall be obliged to omit the water, but the new candy, made of 1 part confectioners' grape sugar, and 3 parts coffee A, can be made so as to keep soft and moist a great many days, and a good supply of this with a drink just before starting, and another as soon as received, will, I think, make the matter all right, for a trip of a week at least. Put them in the mail just before it leaves, and have your customers on hand to take them just as soon as they come. For the outer covering over the wire cloth, I would use a $\frac{1}{2}$ inch board just the size of the cage, and with the same sized hole, or one a little smaller, cut through it. I would cover this with perforated tin, because it is so much more substantial than wire cloth. This cover can be fastened temporarily with 4 wire nails, or it may be tied securely in place with stout wrapping paper and a cord. It must

be removable, because we wish to see in the cage, and be sure the queen is there all right, before attempting to introduce her, and we also want only the one thin wire cloth intervening between her and the bees, for them to get acquainted through. As this cap will not vary much in price from the value of the vial, we will keep the cages at the old price.

Just after the above was written, a cage came by mail, that uses but one piece of wire cloth, and yet is a more substantial cage, and almost ensures ventilation. The cut and our friend's description make it all plain.



JOS. M. BROOKS' MAILING CAGE.

I send you, by to-day's mail, a safety, queen, shipping cage, the advantages of which, I think, are as follows:

1st. The bees can have plenty of air at all times, regardless of the position of the cage. Top, ends, or sides down, there will always be 3 openings left for air.

2d. The perforated tin has 4 tacks to make it secure.

3d. The wood lid, or cover, can be securely nailed down with brads, or screws can be used.

4th. The cover prevents any possibility of the bees stinging the postmaster or his clerks.

In caging queens, I never catch them, but place the cage close to them, and, with a broad feather, crowd them, with a few bees, down into the cage, and drop the perforated tin on the feather, then pull the feather from under it, gently letting the tin drop into its place, when it is all ready to be tacked down, and the wood cover, with its directions, nailed or screwed on. I think *well* of this cage, but want you to examine it *carefully* and say just what *you* think of it. It is *very strong* and compact, and not apt to be damaged with the rough handling of the mail bags. Our postmaster here is one of the most *particular* men you could find. He says that he don't think a better cage for the purpose could be used, which I am pleased to hear, I assure you.

I would like to do all my shipping this season in this cage, and, if you think well enough of it to manufacture it, you will get my orders, at least.

The boring is done with an extension center bit; but I know you are Yankee enough to get them up in good shape.

Whatever cages are used, I do hope that the fraternity will be careful, and do nothing that will cause queens to be ruled out again.

Columbus, Ind., Feb. 16, '80.

J. M. BROOKS.

Well, just as soon as Mr. Gray had looked the cage over, and decided that friend B. was away ahead of us on his plan, we thought of pushing this cover in grooves just as we do the slide in the side for putting in the bees, and thus save the necessity of using any tacks at all. Also, it is often quite important to be able to see the queen, and it is out of the question to see her through perforated tin; therefore we will use a piece of wire cloth over the bees, and then all you have to do to get a peep at the queen is to move back the slide, and you have the same cage for introducing, etc., that we have been using all along. If the bottom of the cage is covered with soft, white candy, this will make a nice background on which to get a fair view of her majesty quickly, that we may be sure she is there. I hope to be able to furnish these cages, candy and all, for 5c each, or \$4.00 per hundred. We will try to get an engraving ready for next month.

S. T. PETTIT, of Belmont, Canada, makes a most vehement protest against the dissemination of blue thistle. He is not acquainted with it, but quotes from a letter from Clark Simpson, Flushing, Mich. If this is correct, it seems to be about as bad as its near relative, the Canada thistle. In view of this, I would advise that no plants or seed be offered for sale, until we hear farther about it. Friend S. says, on page 58, it dies, root and all, at first frost; if this is so, it certainly can not be anything like the Canada thistle in regard to extermination.

PRICE OF QUEENS FOR THIS MONTH.

I PRESUME many think our prices very high now, and, to be frank, I think so too; but I would really prefer not to sell them to the great detriment of my apiary, as I have done seasons heretofore. If others are willing to spare theirs, just now, at a critical time for brood rearing, I shall be glad to have them supply the demand. Will those who have queens to spare during the month of April please let it be known, with their prices, in our next number. Heretofore, the demand for early queens has been far beyond the supply.

IMPROVEMENTS IN SMOKERS.

BINGHAM sends us a very neatly made smoker indeed, containing his new tin guard to prevent burning the operator's fingers. While this is excellent for the purpose, I think it too much machinery, and that it will soon get bunged up. However, Bingham may know best, for he has certainly so far succeeded in giving the public a smoker of which there is very little complaint. In answer to my note last month, no complaint has come, except the one I give in this number.

L. C. Root also sends us a smoker, with an improvement that is a novelty at least. It is both a direct draft and cold blast, at pleasure. By simply moving a button, presto! you have one or the other at will. If your wood is green and damp, just give it a direct draft, and make it burn. If it is dry, and like to burn out too fast, use the cold blast and save your fuel, and have all the rest of the advantages. I have a little fear here, too, that it will prove almost too much machinery, but I may be wrong, and he right. His device for getting a cold blast is not new, for we have a model of the same in our office, sent us by a friend in Michigan, a year ago or more.

THE RASPBERRY AS A HONEY PLANT, AND SOME HINTS IN REGARD TO ITS CULTIVATION.

THE red raspberry is undoubtedly an excellent honey plant. The black-caps are also good.

Both kinds are hardy north of about 41° of north latitude. As you go south from this line, they are more tender. Winter-killing, as it is called, is the trouble. It is true that the vines die in the winter, but the excessive heat of the sun in summer is, in my opinion, the primary cause. To avoid this, they should be set where they will get the full benefit of the summer breeze. To set them behind wind breaks, with the sun pouring in upon them, is to kill with kindness. To avoid damage by the wind, cut off an inch from the end of the new growth when it reaches the height of about 20 inches, thus causing them to throw out side branches. This needs to be done some time in May or June. Each side branch should also be cut once in the same way, when not quite so long. Shallow cultivation until some time in August, with horse and light turning-plow, will help them to endure the heat of summer. The partial shade which young fruit trees afford is sometimes useful, but the trees should not be so large as to interfere with the free circulation of air.

Three by six or seven feet, according to strength of soil, is the proper distance to set the black-caps. The reds are most easily kept in order when set 5 or 6 ft. apart each way, and cultivated both ways. Where they are liable to be winter-killed none but the hardiest varieties should be set. The Philadelphia, though generally considered hardy, is of no value here. The Turner is perhaps as hardy as any; we fruited it here the past season, and have strong hopes that it will be a success. They are excellent for bees, and for table use and canning nothing could be nicer.

P. UNDERWOOD.

North Lawrence, Kas., Feb. 6, 1880.

MAKING FOUNDATION BY THE SINGLE OPERATION OF DIPPING.

THE \$100.00 OFFER.

ISEE that you and some of your readers have not succeeded perfectly with our plaster of Paris fdn. machine (See page 255, 1878). Since that writing, I have been watching developments and experimenting, and have succeeded, I think, in reducing the plan to a practical success. I have made about 1,000 sheets. I have used fdn. from you and others, and decidedly prefer my own make to any other I have used, for the following reasons:

I. The grain of the wax not being broken by pressure while cold, the sheets are stronger, none having broken or stretched to speak of.

II. The wax is soft, and ready for manipulation by the bees.

III. It can be used thinner than any other fdn., as I make it *thin* at the top, and gradually *thinner*, until the thickness diminishes to nothing at the bottom, by dipping several times, part way at first, before the final full dip, and "clap." I never weighed it, but think that none ran under 8 or 10 ft. to the pound. It is a little rougher on the "off side," than the rolled fdn., and does not look quite so "business like," but the bees seem to think it more "business like," judging from the way they "wade into it;" the combs also scarcely show an imperfect cell.

My frame is 9½x12¼ in. Larger sheets have not worked quite so well, but two sheets will work nicely, I think, especially in the wired L. frame, by uniting them at the middle support.

My last machine was made as follows: Two wooden frames, similar to slate frames, but one inch thick, were hinged together, with grooves inside to hold the casts. These were closed together with a sheet of rolled fdn. between them, which was held in place by a loose board fitting in one side, while the other side was filled with plaster, the fdn. having been first moistened with a sponge, to cause the plaster to enter perfectly. When set, the whole was inverted, the loose board removed, and the other side filled in like manner. Handles are attached to hold and work the machine by.

In working, only one of the casts is dipped in the wax, and they should be *clapped* together hard, the instant it is raised, sending the surplus wax from between them. I took 400 or 500 sheets from one cast, and it is, or was, nearly as good as new. I can fill one with 15 cents' worth of plaster, in a few minutes. I would send a sample, but what I had made up, with machines, etc., was burned with my little, hard-earned home, Dec. 30th., but not the bees; thanks to outdoor chaff packing.

Mt. Vernon, Ia., Feb. 6, '80.

OLIVER FOSTER.

I, too, have succeeded in making very good sheets, that the bees would use, on the plan mentioned, but it was a great deal of bother, and only once in a while did I get good sheets. They looked so rough and untidy, as a general thing, that I felt glad to go back to the rolls, where we could make the work go along, and do a nice job. I think it can be worked out, but I have neither time nor money for more experiments. Go on, and develop it, you that are out of work.

HURRAH FOR TEXAS!

EVEN DOOLITTLE IN THE SHADE.

EDITOR GLEANINGS:—As you failed to receive my report last fall, I send another. Bees did well; that is, mine did. From 69 swarms, I got 42 young swarms, and 4,000 one pound sections, and 6,200 lbs. extracted honey. From one hybrid swarm, in a three story, L. hive (which I use exclusively), I got 462 lbs. It gathered, in 3 days, 54½ lbs. I did not build it up in spring; the swarm was just the product of one queen, and had 9 frames in each story. Now, don't you think I have beaten friend Doolittle, with his big yield in '78.

Our big yield comes from linn, wild China, and golden rod. Our winter has been very mild. Bees commenced carrying pollen on the 10th of January. They commenced swarming last season, on the 18th of March. I am now making hives and repainting old ones. An apiary kept in good style is something nice to look at, and is something new in this part of Texas. Mine is the only one I have ever seen, and I would not feel at all ashamed, if you were to drop in on me some day unexpectedly.

There is beginning to be considerable interest taken in bee culture in our state. We have first class railroad and water facilities to all parts north and east, and I think the day is not far distant, when we can compete even with California as a honey producing state.

J. W. ECKMAN.

Richmond, Port Bend Co., Texas, Feb. 12, 1880.

LEAKY COVERS.

THERE is a passage that reads "As you would have others do to you, do ye even so to them." Well, the bees and I have lived on one farm for over 50 years, and I have noted down some things in my experience.

In looking through my apiary last August, I found I had 50 stocks in good condition; and, as I had had a little trouble the previous winter with leaky covers, I put a new half-story on all of them, and fixed them up nicely with 7 inches of chaff over the frames, and left them on their summer stands. I examined them to-day, the 8th of Feb., and found all in good condition; but more than one-half of the covers had leaked more or less, and wet the chaff packing, so I had to renew nearly all the chaff, of which I happened to have plenty.

I began to think before I got through that the rain would run right through a solid inch board; but you know it takes but a few drops of rain with the moisture from the breath of the bees to wet the chaff packing. I had one hive that I bought of Bro. Shane, of Chatham, last summer, that had a tin roof well put on. When I came to examine it, it was as nice and dry and sweet as the day I put the chaff on; and, when I uncovered the bees, they looked so pleasant and said, or seemed to say, "Hurrah for tin!"

Well, I have made up my mind this minute that I shall not try to winter another colony with wooden covers; it is pure "penny-wise and pound-foolish." Tin costs a little more, but "a job well done is twice done."

Just think how you would feel some wet night with the rain running in, and saturating your bed clothing. Can you imagine how uncomfortable you would feel? Then think of a zero freeze setting in, and no fire in the house. Well, that would make a heathen rage. Now a man feels better and is better and sleeps better, when he knows all the creatures that God has committed to his care are comfortably housed and well cared for.

J. ELLIOTT.

Easton, Wayne Co., O., Jan. 8, 1880.

Very good, friend E. I do not know but that I, too, am ready to say that I do not want any more wood covers for *wintering* bees. The Simplicity and the story and a half covers do well enough in the summer time, and, as we now winter bees only in the chaff hives, we are about on the same ground with yourself.

CALIFORNIA SAGE.

THE sage seeds are hard to get, because we have so many birds that, unless they are gathered as soon as matured, they are all destroyed. You mention three kinds; though there are three kinds near me, and perhaps five, yet there are only two of any practical importance,—one the white, well known everywhere, and the other, by some called black, by some blue. The latter is confined to certain favored localities, and is also called by some "button sage." If you will agree to take quite a lot of the seed, I will make arrangements to gather it, provided the price given is enough. You must remember labor is dear here. Let me know what you could afford to give, and in what quantity you would probably wish it.

HOARHOUND AS A HONEY PLANT.

The hoarhound seems to me to be a better plant to propagate here than either of the sages. It flourishes in as dry places as they do, and blooms nearly all summer. Last summer when the bees would work on nothing else, you could always see them on the hoarhound. The quality of honey is yet in dispute, but there is but little doubt of its being a fine grade, though some say not. What we have was first planted by the old Mission Fathers (*Padres*), and it has since spread over a wide area, and flourishes everywhere I've seen it, except in the brush; that is, it don't seem to hold its own except in open ground. Last summer you know was a very dry one here, yet the most flourishing plant I saw was in an old roadway, as unpromising a place as could well be, dry, and on the side of the hill. I see that botanists put it down as a "desert plant." Quinby speaks highly of it.

RUFFS MORGAN.

Glen Oak Apiary, Bernardo, Cal., Jan. 29, '80.

We have hoarhound on our grounds, raised from the seed. It blossoms nicely the first year, and seems very hardy and easy of cultivation. If it answers as well as the California sage, it will certainly be much easier of cultivation, in our climate. Can any one tell us if it has any commercial value for its medicinal properties? We wish to make all these things count as far as possible. Thanks for your report, friend M. I cannot say what the market price of sage seed will be another season, but it is certainly high enough now.

SOMETHING FROM OUR GOOD FRIEND,
MR. LANGSTROTH, ONCE MORE.

PEA FLOUR FOR POLLEN.

MR. LANGSTROTH handed me a London Journal of Horticulture, containing an article on the treatment of condemned bees, as they term it (bees that are too weak to winter), and requested me to give you a condensed sketch of it, as his health will scarcely permit him to write, but he thinks it worth giving to your readers to experiment upon.

The writer says that he commenced feeding a hive with syrup, on Sept. 19th, and kept it up for 9 days, at the rate of over 3 lb. per day, in which time, they more than half filled the hive with beautiful white comb, yet the queen laid but few eggs. Acting upon the theory that pollen is absolutely essential to brood rearing, and knowing that it was at that time very scarce in that vicinity, he mixed some pea-flour (perhaps other flour would answer) with syrup, and added a small quantity of salicylic acid (which I would leave out), and, removing a comb, applied it with a flat knife in the form of paste, just as some people spread butter to fill up all the holes in the bread. He returned the comb to its place in the hive, and, on examining it two hours after, found that the bees had sucked out the excess of syrup, and packed the pea-flour down nicely in the cells, as they would pollen gathered in the natural way. By the next day, the greater part of it was consumed, and, by repeating the doses, breeding quickly commenced and progressed rapidly.

D. A. McCORD.

Oxford, Ohio, Feb., 1880.

Who can furnish us pea flour?

BUILDING UP WEAK COLONIES AND STRENGTHENING FEEBLE STOCKS.

EDITOR GLEANINGS:—In making up swarms, raising queens, building up stocks that have weakened over winter, etc., I use the standard sized comb, or the same size that I use in the apiary, and then I confine the bees to just as many combs as they can occupy and no more. It is far better to have them rather crowded than to allow too much space. I want my division board to fit closely all around, except at the bottom. I allow $\frac{3}{4}$ in. space between the bottom of the division board and the bottom of the hive, except for nuclei; then, of course, the division board should fit tight all around. Now, if the bees are clustered outside of the division board, in the main body of the hive, in the middle or heat of the day, so much the better; you will find that they are all clustered on the comb in the cool of the morning or in cool weather at any time. I write this because beginners and, in fact, many old bee-keepers do not think it of any importance. A swarm of bees that can fully occupy two combs, when confined to those two combs, can carry on all the labors of a swarm, and *are* a swarm to all intents and purposes, just as much as a swarm that can occupy ten combs for the time, and can readily be built up to a full standard stock. Of course, a swarm that can occupy ten combs is worth more than the one that occupies but the two. That no one will deny. I mean that the swarm occupying the two combs, properly managed, have all the necessary elements of strength, and can be readily built up to a full stock within or by themselves, without assistance from other stocks.

In strengthening up weak stocks, I like this method: we go to the strongest stocks, set out the comb containing the queen into an empty hive or box for that purpose, then take out the other combs one by one, and shake or brush off the adhering bees into an empty box until we have all we wish to take from the stock. Then set back the comb containing the queen, close up the hive, and all is right so far. Now, we go to the next hive, and go through with the same process, and so continue until we have our box full of bees, or have all the bees we want, and perhaps we have taken them from half a dozen or more different hives, and mixed them all up promiscuously. We now set the box containing the bees in the shade, open side up, at an angle of about 45°, and let them remain until they begin to manifest considerable uneasiness, and then we can ladle them out and pour them down in front of any hive we wish to strengthen; they will be well received, and there is no danger of their killing a queen, providing the operation is performed when they are gathering honey and breeding rapidly. At seasons when they are not breeding and gathering honey, it is better to strengthen up with combs of hatching bees. With the Italians, it is no trouble to find the comb that contains the queen as above. Of course, an old, experienced hand can take out a comb and shake off the adhering bees in front of the hive he wishes to strengthen, without any ceremony. Remember it is the young bees we want; the old ones will find their way back to the parent hive. Therefore we select the combs containing the most nursing or young bees.

Never be niggardly or sparing in stimulative feeding. Remember that a few pounds of sweet fed at

the right time in spring or summer may produce ten-fold in profit. Stocks that we are building up, if fed but very little diluted sweet (either sugar or honey made quite thin) every evening when they have gathered nothing through the day, will keep up their breeding, and make wonderful progress, while those that have not been stimulated will progress very slowly, and sometimes fail entirely. It is a good plan to keep your poor quality of honey especially for stimulating. Many stocks can be saved in California the coming spring by heeding the above.

E. GALLUP.

Santa Ana, Los Angeles Co., Cal., Jan. 10, 1880.

ALSIKE CLOVER, -- FOREIGN SEEDS IN IT, AND HOW TO GET THEM OUT.

ALSO SOME EXCELLENT HINTS ON SOWING SEEDS, IN GENERAL.

A. I. ROOT:—We are in receipt of yours, inclosing sample of a weed seed found in the Alsike clover we shipped on your order. The Alsike was grown in a section of Ohio where Canada thistles do not grow, besides the sample is not Canada thistle; for that seed is of the size and shape of German aster, like sample we inclose. It is not clover however, but is the seed of a weed with which we are not acquainted, and being so, we may venture to suggest is better out of, than in, the land.

Evidently this seed is much lighter specifically than clover, and its separation would be very easy. As there are many instances where seed is mixed with other objectionable seeds of lighter weight, we would give the most simple and effectual way of separating them.

Take a few cents worth of salt, and make a brine sufficiently dense to float the weeds and sink the seed; the weeds or even oats may then be skimmed off, and the seed dried in the shade until it can be handled readily; or, better still, it may be dried by mixing with dry sand, air-slacked lime, or land plaster.

We say "dried in the shade," because, in no case, should seed be dried in the sun or by fire heat, for fear of heating it beyond the temperature it can stand, 120° being sufficient to destroy its germinating power, only a very few varieties of seeds being able to stand a higher temperature. The operation of floating should be performed just before sowing.

It would be of the greatest benefit to those sowing seed, always to bear in mind the fact that 120° of heat destroys its vitality. If, therefore, in our climate, seeds be sown during June, July, or August, and left for an hour on top of the ground, during the heat of the day, exposed to the full rays of the sun, the probable result would be likely to be, and usually is, an utter failure.

To avoid this, seeds of every description should be covered as soon as sown, or else sown in the evening and covered early next morning.

A. C. KENDEL.

Cleveland, O., Jan. 28, 1880.

"OPPOSITION" TO THE "BANNER APIARY."

I COMMENCED the season with 15 colonies. All but 3 of them came out of winter quarters in fair condition.

UNCAPPING COMBS TO PROMOTE BROOD REARING. Fruit blossoms yielded but little, just enough for breeding purposes, and lasted but a few days, but it gave the bees a start, which was kept up by uncapping their stores as they needed it. I consider

this equivalent to feeding, to induce brood rearing. The weather was quite cool during April and a part of May, which used up the most of the apiaries around here, while mine kept right along rearing brood, as I left them packed snugly in their boxes, only removing the chaff from over the hive. You know I pack them *a la Townley*.

They did not feel the effects of the cold weather, and when white clover came, they were "booming," and ready for business. Clover lasted, with short intermissions caused by dry weather, until July, and was my main dependence for surplus honey. Basswood did not yield much honey, and buckwheat did but little better, but kept the bees busy for a few days, which closed the season for surplus honey.

CHAFF PACKING, AND ADVANTAGES OF KEEPING IT ON LATE.

By the way, I would say that I did not remove the packing from my bees until June, which accounts, in part, for my success. I have shipped 835 lb. , nearly all white-clover honey, have 228 lb. crated ready to ship, and have over 150 lb. left for the home trade, making in all over 1,200 lb. , all comb, except about 50 lb. , and I have increased to 32 colonies. I used no *fdn.*, except for starters in the boxes. If I had had empty combs I could have done better. How does this compare with the Banner Apiary, considering the disadvantages that I labored under?

S. H. MALLORY.

Hamilton, Van Buren Co., Mich., Feb. 1, 1880.

Ladies' Department.

FROM ONE OF OUR FEMININE A B C SCHOLARS.

I ORDERED a \$1.00 queen of you last June, which I received July 18th, in good condition, after being 4 days on the road. She and her escort had consumed about half the honey in the small comb, and the queen had filled the empty half of comb with eggs. I introduced her in 24 hours after receiving her, to a colony of blacks that had been queenless for 4 days, and had started 10 queen cells. They received her with kindness, immediately tore down their half-built queen cells, and killed, and tossed out of the hive the last one of the queen's escort who had so faithfully guarded her during the 4 days journey. I was sorry to have them treated so harshly.

The young Italians appeared outside of the hive, for the first time, Aug. 13th, just 25 days after the queen was introduced. They were beautiful bees, almost as large as their mother. They are all 3 banded and extremely docile. They show the 3 bands at all times, whether they are filled with honey or not.

I now have 2 full colonies (one Italian and one black), and 2 nuclei of 5 frames each. I put all of them in chaff hives during the month of Oct., with chaff cushions above. I examined them Jan. 3d (the weather being warm enough for them to fly), and found one nucleus with plenty of stores to last them through the winter; the other, consisting of a small after swarm which came out June 20th, was entirely out. The Italians had perhaps 8 or 10 lb. of honey, and the colony of blacks scarcely any at all, although, during the fall, they seemed to have as much as all the rest combined. This being the parent stock, it of course had the full benefit of the entire season. I immediately furnished all four colonies with candy in brood frames according to directions given in

A B C. and, upon examination 8 or 10 days afterward, found all busy storing the candy in combs, the Italians, however, going far ahead of the blacks in this work, having stored twice as much in the same length of time.

Last season was a very poor season in this locality for honey, so old apiarians say. My 4 colonies all came from one last season,—2 natural swarms and one artificial. I think I can take them through all right as they all have nice, warm, dry hives, with ample facilities for furnishing them all the food they want.

I am pleased with the *fdn.* you sent me. The bees drew out the cells, and the queen had eggs in some of them, in 48 hours after it was placed in the hive. I think it just the thing for brood rearing and saving honey. I had to take nearly all the sheets out of the hive, and cut $\frac{1}{2}$ in. off from the bottom, the bees seemed to lengthen them out so, when they worked on them freely. They *sagged* but little, as the cells at the top will show.

Now for a question. Will not your regular size of *fdn.*, 12x18 in., answer my purpose by cutting each sheet in two? I use the Adair frame, and half of a sheet would fill my frame lacking $\frac{1}{2}$ in. on each side, and $1\frac{1}{2}$ in. at the bottom. Sheets as thick as those you sent me will stretch $\frac{1}{2}$ in., or more, while being drawn out.

MRS. D. J. BALLARD.

St. Paul, Ind., Feb. 5, 1880.

I am very glad, my friend, to hear of your succeeding so well, but you surely ran a great risk, in going into winter quarters with only enough, in one nucleus, to last until Jan. 3d. The sheets of *fdn.*, cut in the manner you mention, will do very well, although the space below is rather more than you need. May I suggest that, if you have only 4 hives of the Adair frame, it would be better to change into the L. before you get any more? Even if the frame you mention is a trifle better, and I feel sure such is not the case, you will eventually find it inconvenient to have a different size from that of the great mass of bee-keepers.

ARTIFICIAL POLLEN AND SPRING DWINDLING.

Mr. C. C. Miller's letter in GLEANINGS induces me to say that Mr. A. and myself have come to the conclusion that bees kept in the cellar until they can get natural pollen are less likely to dwindle in the spring; at least, such has been our experience, and the more quiet we can keep them the better. All through Jan., our bees have been *remarkably* quiet; only one day have they been uneasy, and that day we had a very warm room above them for about 10 hours, but we cooled them off by opening windows and door of bee cellar at night, and cooling the room above them. In fact, our bees have never been so quiet in the winter, in the cellar, as they have been all this winter.

We have 160 colonies packed as closely together as the hives will allow, each hive being packed full of straw, as you will remember has been our plan. We have lost but very few wintered thus in the cellar. To those left out-door last winter we fed, in Feb., about a two bushel sack of fine flour, mixed with straw, also a considerable chopped grain. We believe it was *worse than lost to the bees*. In March, they threw large quantities of it out of the hives, and those bees dwindled badly, while those kept in the cellar until they could gather natural pollen, or until about that time, were set out and crowded

down on combs, until it would seem that the bees could hardly all get in, for want of space. The remainder of the combs were set outside of a division board on one side, the board being raised a little ($\frac{1}{2}$ of one inch) from the bottom, with a third division board to be used on the outside of those combs, and all covered up warm with quilts. Such bees increased in numbers, instead of dwindling. Occasionally a comb was set over in the hive as the others were filled with capped brood. The bees would carry in the honey from the outside combs as needed. We found that a few weak colonies would not go outside of the division board for honey, unless it was raised about an inch from the bottom, or was set down on the bottom so that they could go over at the top, and crowd the bees still more on their combs to keep up the warmth. Some of the hives were left in this way until the bees began to bring in honey, and the little fellows would go under the division board and deposit it in the outside combs.

I know that flour feeding sometimes seems to do harm, especially since our late wintering troubles, but as any kind of feeding, or any thing that starts brood rearing unseasonably, seems to have the same effect, I can hardly think it best to decide that flour feeding, or giving artificial pollen of any kind is, as a general thing, hurtful. Where the bees are destitute of pollen, during warm weather in early spring, I have seen good results follow so plainly from feeding meal, I should be loth to discourage its use entirely. I should hardly recommend flour feeding so early as February. Chaff-packed bees, wintered in the cellar, and kept in until natural pollen is to be had, is a pretty safe way, where one has a cellar good enough to keep them quiet and contented all this time.

WET CLOTHS TO PREVENT ROBBERING.

Wet cloths do away with the tent for us. I hardly think people know how to appreciate them, or they would speak of their merits more. We have from 35 to 50 cloths, and if the hive shows the least sign of being robbed, we wet a cloth and lay over it, and go ahead; as the cloth dries, the wind will generally blow it down by the time the bees are quiet. Also, if a comb of honey is out of the hive, and the bees pay any attention to it, wet a cloth or two and lay over it, and they will keep away; when, if the cloth was dry, they would crawl in all around.

MRS. L. C. AXTELL.

Roseville, Ills., Feb. 2, 1880.

Wet cloths to stop robbing is rather a new idea to me. Will others test it and report. I suppose our friend, Mrs. A., intends to cool off their ardor for stolen sweets, by throwing a "damper" or *dampener* over them. I know drenching them with cold water will often cause them to disperse, at least for the time being, or until they get dried off again.

HOW TO STOCK AN APIARY.

THIS is a question that seems to be puzzling the minds of many beginners to-day, and also of many who have sufficient knowledge to handle bees upon an improved plan. To the latter I will make a few suggestions. At this time of the year many are thinking, "Now, if I had enough bees to open up the resources of my location, or enough to put with what I have to produce what honey I could sell in my own neighborhood, I would be satisfied."

Well, there are lots of bees all around you that it is your duty to do something for. They want some one to get them out of their old, weather-beaten, moth-eaten towers, and give them a house such as all bees have where modern apiculture has reached them. If you have a little spare time this month, run around among the box-hive men of your county and have a "bee talk" with them; take a sample hive with you, provided it is not a patent; if it is, throw it away. But if you persist in taking a patent, I would advise you to arrange matters so that when you tell the man that you have a patent bee hive, and wish to put one up for him, you can have at least two fences and a large wood pile between you and him, and then the sooner you get your horse to running away, the better 'twill be for you; for I can assure you that some of those old homespun farmers are alive to their best interests on the question of patents, if they don't know much about bees. Well, having got a simple, modern hive, take also several copies of bee journals, and a smoker. These three are the most important articles for a beginner, and when you come to a man's house where box hives are used, stop; show how you manipulate your hive, also leave a copy of your journal there for a few days; show him your smoker; tell him you would like to introduce your hive into his yard, and also how you propose to do it. After I have found that a man is willing to try my hive, I state something like this: I will be at your house some time in May, and will transfer a colony and warrant them (by this I mean, if I should kill the queen while transferring, that I will pay him for his swarm or furnish him another one), and also furnish a good, painted, two-story hive (this costs me \$1.50), and a smoker, or, after the 1st of July, a dollar queen instead of the smoker; but, instead of either one, I would tell him, I think,—yes, I know I would,—that a year's subscription to a good bee journal would do him more good than either one. Well, I call this all worth \$3.50, for which I take a common swarm of black bees for my pay; but, if they are extra good, I let him have another single hive, or something to make up their actual worth to me. Remember, this swarm is an old colony that has not cast a swarm yet, and if you take it home, transfer it, and handle it properly, it will amply pay you for your work. I was out the other day, and, at one place, I took an order of 5 to transfer and furnish; at another place, 2 swarms to transfer and furnish. At the first place, I got 4 swarms of bees for my pay, and at the other place, \$8.00 in money. Well, after you have got your orders, fill them just as you agreed to do. Remember, you are establishing a reputation, and upon that will depend your success, should you ever want to procure bees in this way again. Yes, and I can safely say that your success as a bee-keeper depends much upon your word to your customers. And now I wish to say, unless you intend to do just as you agree, and have sufficient knowledge of bees to warrant your work, let your neighbors' bees alone; for you will lose every time, as well as they.

M. A. GILL.

Viola, Richland Co., Wis., Feb., 1880.

Many thanks, friend G. I like your advice to the boys very much indeed, especially the latter part. Now, to sum it all up, does it not amount pretty nearly to this little text?—

Trust in the Lord and do good: so shalt thou dwell in the land, and verily thou shalt be fed.—PSALMS xxxvii. 3.

CALIFORNIA AS A BEE-KEEPING STATE.

ARTICLE NO. 5.

EDITOR GLEANINGS:—Perhaps a line, descriptive of Southern California, might not be out of place, as I have so many inquiries from the East about the country for bee-keeping.

As soon as the rainy season commences, vegetation starts, and every thing looks green and beautiful. Even the mountain tops are covered with beautiful verdure. Alfalfa is green the year around on irrigated land, and will give eight crops in the year. If allowed to blossom, it produces considerable bee-forage. Usually, every thing in the grass line dries up in July, except on irrigated land. The remainder of the year, the hills and mountains look bare and desolate.

The mountain apiaries produce as good a quality of honey as is produced in any part of the world; but every few years, the bees will die off, unless there is an abundance of honey left in the hives, or they are moved into the valleys, or fed. This is expensive, consequently the best locality for an apiary is where the bees can have the advantage of mountain and valley, without the expense of moving.

The valley gives the early spring and late fall foliage which promotes early and late breeding, and the mountain gives sage honey at the time of extracting on the "mesa," or hill land, in many localities after the dry season sets in. The Turkey mullen and vinegar plant blossom profusely in ordinary seasons, and produce an abundance of bee-forage; but last season the mullen was a failure, and the vinegar plant came very near being so, on account of the extreme drought.

A Mr. Phillips had 50 colonies from which he took 1,000 lb. last season, and they are now, or was when I saw them, in splendid condition. He has the mountain on one side and the valley on the other. Messrs. Grimes, Kenney, Dudley, Tutston and Clark, Corey, Barber, and some others, whom I know, have splendid localities in that respect. Mr. Kenney has a splendid locality for fruit in connection with his apiary, and so have Mr. Dudley and some others; but Mr. Keeney is well started; has a fine young orchard, and a vineyard in full bearing, which he intends to enlarge. Fruit raising can be carried on quite extensively and not interfere with bee-keeping. Southern California can compete with the world in the quality of her raisins, and, in fact, in raising grapes of all kinds, and the climate is such that raisins are dried *perfectly* in the open air. The display of fruit at the Los Angeles fair, for quantity or quality, would convince the most skeptical. It beat all that I ever saw or could even imagine.

In locating an apiary in the mountains or, in fact, anywhere, we must have a road to it, and some chance for water, either a small stream, a spring, or a well; and it is not everywhere that water can be had by digging a well. In hot weather and while breeding rapidly, bees use large quantities of water.

A Mr. Keene has an apiary located so that he raises large quantities of bees very early in the season, but it is a poor locality for honey. Mr. Keene is a one armed man, and has his hives in long rows with a rail-road track running out from the honey house the length of the apiary, and a small car to run in the honey, which makes it quite convenient for him. He also runs his honey cans, when filled, out to the

wagon from the lower side of the honey house. His apiary is located on an incline. E. GALLUP.
Santa Ana, Cal., Dec. 14, 1879.

Box-Hive Department.

MY bees do as well for me as I do for them. In the spring of 1878, I bought 11 swarms; in July, 2 more. They were old swarms, some 6 years old, and in square box hives, made of hemlock, badly checked, with strips of wood tacked over the cracks. On most of them I could set 4 five-pound boxes. During the summer they gave me 11 large swarms, and 12 after-swarms. Some of my first swarms filled 12 boxes, or 3 sets. When the first set was finished, I raised them up and put empty boxes under them, with holes top and bottom of the boxes. I think bees will make more honey in this manner than they will by taking the full boxes off, and they can take much better care of the honey than I can. When fall came, I had 700 lb. of fine box honey. Most of it sold, without crating, at 13 c. per lb. I took up some second swarms in the fall. When winter came I left them on their summer stands, and gave them no care during the winter. In the spring, I lost one swarm by their coming out and trying to enter another hive, which killed all of them. One swarm was robbed out in spite of all I could do, and 7 winter-killed; so I had 22 swarms to commence with in the spring of 1879. This was my first year, without any previous experience. I make all my hives with 16 one-inch holes in the top, 4 to each box. I am now convinced that 4 holes to each box is better than any less number. One of my neighbors who has kept bees for many years, and could get but little box honey, had only one hole to each box. He came to me and got one of my hives and put a swarm in it, and got more box honey from it than from all the rest of his 30 stands combined.

THOS. ROTHWELL.

Austinville, Bradford Co., Pa., Jan. 14, 1880.

Pretty good for box hives, friend R. You have doubtless much improved on your neighbor, but there is still a great chance for improvement in your hives and mode of management, even though your report is better than that of some who have all modern appliances.

SUSPENDED ANIMATION, ETC.

MR. ROOT:—As I know you like to hear odd stories about bees, I am going to tell you one. A good many years ago, for some reason (I forget what) I drove the bees out of a hive, and carried the hive into the house to take the honey. Some bees were still in the hive, and, in the night time, some of them got into the bed where my son lay, and stung him. I think it was next year when I drove another hive. I did not kill the bees in either case, so, when I was carrying it into the house, my wife objected saying that the few bees left in it would come out and sting us as they had done before. So I dug a hole in the ground, say 16 in. deep, got a good handful of long grass, took a shovelful of live coals and threw them into the hole, then a small handful of lumps of sulphur, and put the grass in the hole to keep the combs from melting; then I clapped the hive over the hole, put the

earth close to it to keep in the fumes, and struck the hive with my hands to make the bees fall. I let it stay that way for ten minutes, perhaps, when I lifted off the hive and filled up the hole. Not a single bee, dead or alive, was left in the hive. Next morning I began to be a little anxious to know if the queen had been driven out with my bees, or if I had smoked her. So I went to the hole and dug out the earth with my hands till I could get hold of both ends of the grass and turn it upside down, when every dead bee could be clearly seen. While I was leisurely examining them I saw a bee move its leg, and by and by another; then some would stand on their feet, brush their wings and their antennæ, and fly away. I did not count them, but thought there were from 30 to 50 which flew away. There were a number of drones, also, but they were every one dead; there was no resurrection for them. These bees, after they had been smoked with brimstone, and buried at least 12 hours, lived and flew away to join their companions, I guess, as they were replaced as they were before. Benjamin Franklin speaks of a still stronger case of suspended animation. He tells of flies coming to life after being drowned, I think in Madeira wine, some years before. It's a long time, may be 40 or 50 years, since I read it, but it may be seen in the life of Franklin.

TEA-CHEST MATTING FOR COVERING THE FRAMES.

Did you ever try that kind of bass strips that come around tea-chests from China and Japan, for covering your frames, instead of duck or enameled cloth? I think it is better than either. I get it from the grocers for the asking. JOHN DAWSON.

Pontiac, Mich., Jan. 28, 1880.

So your wife objected to the bees being brought into the house after they had got into the boy's bed and stung him, did she? Well, the boy doubtless had some ideas of his own, in regard to the proper place for bees during the hours of repose, and I presume you did right in keeping them outside, even if you did err in the brimstoning part of it. The bees that revived were probably only stupefied partially, and the fresh earth so soon absorbed the sulphur fumes, that they were simply imprisoned. I have known bees to be stuck fast to the propolis when the covering to the frames was put down, and to start off lively, 2 or 3 days afterward, when released by the hive's being opened again. Whether they had food enough in their honey sacks to support them all this time, or whether the other bees fed them, I am unable to say; but they seemed very glad to be set at liberty once more. Dr. Franklin does make some remarks such as you mention, but it refers to flies, and not bees. Flies are of a different order of insects, and may remain dormant all winter, and then rouse up in a few hours, after being warmed up. Flies drowned so as to be to all appearances dead, if covered with common salt and laid in the sun, revive in a few minutes. Franklin seems to have thought the salt had some resuscitating power, but, after experimenting in the matter, I conclude that it only absorbs the moisture so as to dry them quickly. I could never revive them after they had been under water over about 48 or 72 hours, just about the length of time a chilled bee will be susceptible of being warmed to life. I can but conclude that the flies which Frank-

lin took from the wine had been in there only a few days, instead of years. I have never used the matting you mention, but it seems as if it would be too frail to be durable.

IMPROVEMENT IN QUEENS.

THAT RED-CLOVER QUEEN.

JUST look here, Novice. As you are making some noise about your red-clover queen, I think it will do you good to let you know that there is another that has the odds on her side. In this month's GLEANINGS, you mention that her workers are rather dark. Now, for facts: I have noticed that many of the best honey gatherers were not those very yellow bees, but were from dark orange to a mahogany color, the queens being from leather color to brown, and often black tipped. Now I will tell you of our queen, and what she has done. She was raised in the month of July, 1878, and she is the daughter of a very prolific queen that I bought in '76. In '77, the mother stock gave me more honey than any two other stocks I knew of. On this account, I took one or two frames of brood from that stock every week, to get queen cells from, and in '78 it stood best also for both honey and bees. In '77, I bought another queen that was a great layer, and I liked her so well that I raised queens from queen No. 2, and drones only from queen No. 1, and afterward sold queen No. 2, before the winter of '77-'8. From the young queens of No. 2, I selected the most prolific one, and one whose workers were the best honey gatherers, and from her I only raised drones, — all the drones I had in the whole season of 1878. I then raised quite a number of queens from No. 1, in 1878, and watched them closely, though I kept only this one, and she was put in a black stock, 14 miles from here, about the first of Sept., '78. In the winter of '78 and '79 I lost both my queens, — No. 1 and my drone queen. In the spring of '79, the black stock having this queen ran quite low, and was confined to 4 combs that measured $10\frac{1}{2}$ x $17\frac{1}{2}$ in. Between May 20th and Aug. 20th, 11 frames of brood were taken from her, and over 70 lb. of box honey. Five combs, that were all capped, were extracted in Aug., to give her breeding room, and 5 more combs full of capped honey were taken in the fall, to help weak stocks when putting them up for winter. I know that this yield is not extra for Italians, but when we consider the poor season, and that other stocks for miles around did not gather enough for winter stores, and surplus was a thing almost unknown in this vicinity (queenlessness and starvation will take from $\frac{1}{4}$ to $\frac{1}{2}$, if no feeding is done), I think you are not the only one who can praise up one darkish-colored stock.

DOUBLE-QUEEN STOCKS.

On page 12, Jan. No., I see that G. M. D. has a note on two queens in a hive. I have been troubled with two of that sort, and I noticed that they are generally a pale leather color; that the workers are bright color, and very gentle; and that, to introduce a queen to that kind of stock, you need only chuck her in as carefully as you throw corn to the chickens. I have one of those stocks now in good condition, and I have used bees from it to give queens to. I just brush the bees off the combs on to the bottom board of a new hive, put the combs in, let the queen loose on a comb and shut up the hive, and a pint of bees on a frame of hatching brood, with 2 empty

combs, will make it an easy job. Please to take note of it, and inquire into these double-queen stocks, and see if the bees from them won't take a queen quicker than others do. I know that the two-queen strain is not hard to establish. I know of 4 queens, daughters of one I owned in '78, that, during the past season, would furnish young queens if left to themselves. One thing more: Last year you was fast on artificial queen-cells, and G. M. D. infers that a queen-cell built by old bees is of not much worth; also you infer, in the notes connected thereto, that if we could get the queen to lay in queen-cells, we might get better queens. It's no trouble to get them to do that. My trouble is to stop their laying in them. If you think queens from the eggs laid in queen-cells are best, we can just try the difference this season. What do you say to that?

H. L. JEFFREY.

Woodbury, Litchfield Co., Ct., Jan. 21, 1880.

I think you are on the right track, friend J., and I have no doubt but that we may be able, in a very little time, to produce queens whose progeny will gather honey many times when our present bees do not, and which will also rear extra queens in their hives, that we may have no colonies queenless for queen-rearing. Still further, — and, from my own experiments, I feel more sure of this last point than of either of the others, — I think we may have stocks that will receive almost any queen at almost any time, without any introducing at all. Simply take out one queen and put in another, as often as it may be desirable. Every summer we find colonies whose bees will not injure any queen.

SELECT QUEEN REARING. NO. 2.

FIRST, it may be well to know when to begin. If one is in special need of queens, it might be desirable to commence stimulative feeding as early as March or April; but, ordinarily, to raise good, vigorous queens, I would not commence operations until the bees are gathering plenty of honey.

Secondly, when the good time comes, remove the queen, eggs, and all uncapped brood from the colonies which you purpose to employ in queen raising. These queens you may utilize in starting new colonies. Then furnish eggs or newly hatched larvae from your select queens, — either a frame, or a strip of comb an inch wide and 3 or 4 inches long, containing the eggs or newly hatched larvae, to insert in your queenless colonies. Care should be taken that the inserted larvae are not too old. If 4 or 5 days old when started in the queen cells, you may have queens hatching in 9 or 10 days, that may be worse than useless, being half queens and half workers. Perhaps they will become fertilized, and lay eggs a short time; perhaps they will never lay, but will remain in the hive all summer, if permitted, and will not allow any other queen to be introduced, and tear down all the queen cells you insert. Have you ever been troubled with one of these pests? I know who has, and I also know that it is difficult to find them. To avoid this trouble, get eggs or recently hatched larvae into your breeding hives. In about 12 days, your queen cells are ready to be distributed in your nucleus hives.

Now we may suppose you have a goodly number of queen cells, and as many little hives each adapted to hold two or three of the ordinary sized frames of

your apiary. Then go to a strong colony from which to make 4 or 5 nucleus colonies. You want first to find the queen. Examine carefully each frame that you take out; if you do not find her, place the frame in a nucleus hive, and examine the next frame, placing each frame in a separate little hive. Proceed thus until you have found the queen. Put her, with the comb she is on, into an empty hive. Then you can proceed to insert a queen cell in each of the other combs, placing each one in a separate nucleus hive (or in your ordinary hive contracted with division board), with some hatching brood, bees, and honey. It may be well to insert the queen cell near the center of the frame, as there may not be enough bees to cover the whole comb, consequently queen cells on the outer edges might become chilled, and hatching be prevented.

Care should be taken in cutting out and inserting queen cells, not to indent them in any way, and also to have the pieces fit nicely. If not done neatly, the bees may become dissatisfied with your awkward work and tear it down. Novice, whose head is full of good thoughts on apiculture, speaks of a little cake cutter with sharpened edge to mark the shape and size of the piece to be cut out, and its counterpart to be inserted. The operation should be performed with a sharp pen-knife, having a thin narrow blade. In 2 or 3 days, you may look out for a batch of extra good queens. This operation may be extended to the utmost capacity of your choice queens, and your strong colonies to be divided into nuclei. The queenless colonies that you employ to start queen cells must be kept strong, by giving them capped brood occasionally.

If this mode of queen raising, which is perhaps the most generally adopted by experts, does not meet your demands, then we would refer you to the artificial method which you may find described in the A B C of Bee Culture, under the head of "Lamp Nursery."

J. ASHWORTH.

Lansing, Mich., Feb. 5, 1880.

Now, friend A., I have a little fault to find, not with your directions, and perhaps not with you at all. It is this: Some of you folks at Lansing, Mich., our friend Cook particularly, have condemned dollar queens, in the strongest terms. Well, when you proposed to write some directions for queen rearing, as you hailed from Lansing, Mich., I congratulated myself upon the prospect of being told just how to raise queens worth \$4 or \$5 apiece, and, after reading your directions through very carefully, I am disappointed to find that it is exactly as we do raise queens, and precisely the plan I have given in the A B C. We can raise queens on that plan not only for a dollar, but, for orders by the hundred, for 60c., without any trouble at all. The lamp nursery in no way changes the result, for it takes only capped cells. There are a few who still insist that we cannot raise good queens for a dollar. Well, what more should we do, if we were going to raise \$5.00 queens? Doolittle has given one idea on the subject, in saying that we must get cells from some colony that has produced them under the natural swarming impulse, without being queenless. Such queens, without doubt, will cost more, but has it been proved that they are any better than those raised by the plan just given, after all?

Heads of Brain, From Different Fields.

FRAMES ALL IN ONE PIECE.

MY bees did very well last season. I started with 5 stands, sold 2, and increased from 3 to 15, and have taken 265 lb. of honey. I have just finished up my hives and frames for this season. I think I have made an improvement in the way of making frames, as I made all the last lot of frames in one piece. To make them in this way, you must cut 3 grooves in your piece, so it will bend without breaking. Then bend it up and nail one corner. To make the supporting-arms, tack small strips of tin on each side of 2 corners of the frame.

Pleasant Hill, S. C., Jan. 23, '80. W. S. CANTHEN.

The plan of making brood frames all in one piece is not new. Two objections have always stood in the way: one is that the top bar needs to be heavier than the rest of the frame, and the other is that it is inconvenient getting a comb guide in cheaply and securely. If we are going to use the wired frames recently described, both of these objections are obviated. In them, no comb guide is wanted at all, and the top bar need be no heavier than the bottom bar. I am not sure that a full 3-16 of an in., all around, would not answer every purpose for a frame. If we use a corner like our new section box, we can, perhaps, dispense with bottom corners, and thus have a frame equally good, and very much cheaper.

HOW CHEAP SHOULD WE GET WIRED FRAMES OF FDN.?

With Given's press, we could then get up frames filled with wired fdn., ready for the hives—how cheap do you suppose? Wired frames, without bottom corners, all put up, can be made for \$4.00 per hundred; if friend Given can fill 8, L. frames, with one pound of wax, the fdn. could be furnished all put in the frame, for \$6.00 per hundred, making only 10c. apiece for wired frames all ready to hang in the hives. If he will do his part by furnishing a press that will raise walls on such thin sheets, I will try to do the rest of it. We shall want some better method of making wax sheets, to get sheets of an even thickness, and so thin that a pound will cover 8 square feet. The inside of an L. frame is just about one square foot.

CHAFF HIVES, BY AN A B C SCHOLAR.

I commenced 2 years ago, with 3 colonies in old boxes. I transferred them to movable-frame hives of my own make, the first I ever saw. I made them after your directions. I have now 11 stands, all in good fix, packed in chaff, 4 of them in chaff hives. Last season, I averaged 45 lb. from my chaff hives, and nothing from the others. I would not give one chaff hive for 2 of any other kind.

The success I have had with bees is causing quite a bee fever. I have done but little yet, but it is so much better than my neighbors have done with their old box hives, that they think I am doing wonderfully. They have come 7 and 8 miles to see my hives and several have spoken to me to make hives for them and transfer their bees.

J. R. HARDIN.

Rosio, Perry Co., Ind., Feb. 3, 1880.

LONG LIVED QUEENS.

A few thoughts were suggested to me by reading Doolittle's article in Jan. number on queen rearing.

In the first place, we should select a queen to rear from, that has passed into her second year; or, if she is in her third year, she would be better, provided she maintains her ability to keep her hive fully stocked. Queens raised from such a mother would be apt to inherit this valuable trait of queens, and I think it should receive the attention of all careful bee-keepers. By pursuing a course of careful selection, it is possible to lengthen the usefulness and value of a queen. It might also be the means of giving longer lived workers, but this could only be ascertained by experiment, and tests of their age. Even if the age of bees could be increased 2 or 3 weeks only, it would be an item both in the laying of eggs and brood rearing, and the consequent economy of stores. I believe bees are very susceptible of improvement by care and good judgment, also of injury by neglect and want of thoughtful care. I have been led to these thoughts, in part, by the memory of a queen owned by me some 14 years ago, which reached the age of 4 years, and to which I attribute, in no small degree, my early success in bee-keeping. I have been anxious to know more of the condition of the Italian bee in its home in Italy, and to have an honest statement, by actual observers, as to whether they are all absolutely pure in the districts from which they have been imported.

JOHN BAIRD.

Elm Grove, Ohio Co., W. Va., Feb. 3, 1880.

Long lived, prolific queens are certainly very desirable, and, as the matter which friend B. takes up is one that has received comparatively little attention, I think it should be looked into. The queens that come from Italy do, assuredly, produce workers having the three bands as explained in the A B C, differing *entirely*, in this respect, from the black bees and hybrids of our own country. I have now imported largely, and from different localities, and, in view of the above, I am satisfied that there are no black bees or hybrids in Italy, at least in the districts from which our queens have come. If you examine the tests as I have given them, I think you will all agree with me.

ALSIKE CLOVER.

I would say to some of the Alsike-clover men, that here, when it is once sowed, it never runs out. I have some in a meadow, that has been mowed four years, and it has increased every year. It was mixed in the timothy seed when I bought it. One of my neighbors sowed some about the same time, and there is plenty yet. The soil, in the first case, was a sandy loam; in the last case, clay.

HONEY FROM RED CLOVER.

The aftermath of red clover was covered with bees for 2 weeks, but there is but little grown here. I transferred a new swarm the 15th of Aug. They were hybrids. I gave them 4 frames of comb, and not a pound of honey, and they filled their hive with comb and honey to overflowing. I did not feed them at all. It was an after swarm, but now they are as heavy a colony, in bees, as I have. I don't think the queen has stopped laying this winter, as they have been down cellar through the chilly weather, and carried out pleasant days.

J. S. TERRELL.

Ridgeville, Ohio, Feb. 1, 1880.

GRAPE SUGAR THAT WILL KILL BEES.

Some little time ago came a lump of sugar and the following:

I send you by mail to-day a sample of the grape sugar made at Sagetown, Ill. I tried making candy of it by your recipe in Oct. number of GLEANINGS, but failed to get it to harden, and shall have to try it again.

W. H. MCQUISTON.

Monmouth, Warren Co., Ill., Dec. 19, 1879.

The sugar was of a dirty yellow color, and the taste was not only bitter, but had an offensive flavor of chemicals. I wrote our friend not to use it by any means, and sent him a sample of our own. Here is his reply:

I received your postal in regard to sample of sugar sent, and thank you for the advice, "not to feed it;" for, having tried it on two stocks, they both died, and I know no other reason for their dying.

W. H. MCQUISTON.

It seems as if the Buffalo factory improved on every ton of sugar they send us. It is now so white and of such a pure sweet that it is not bad confectionery just as it is broken out of the barrels. Both in appearance and taste, it is slowly but surely coming nearer and nearer to very white, pure, candied honey. If the flavor of basswood or clover honey were added to it, and its candying property corrected a little, it would be almost, if not quite, honey made from Indian corn. Let the manufacturers go on improving in its manufacture, and put it right into the market under its true name, and nobody has anything to fear from it.

A HOME-MADE WAX-EXTRACTOR.

Mr. A. Meder once told me his experience in rendering wax, which I think would benefit many a one who is not able to procure a wax-extractor. He took a small flour sieve, with tin rim, and put therein his broken comb, and set it over a washpan a little larger than the sieve. He put some water in the washpan, and set the whole in the oven of a cooking stove. He assured me that the pure wax was down in that water quicker than it would have been with an extractor, and with less heat; and there is room for improving it greatly.

A. SCHNEIDER.

Louisville, Ky., Dec. 22, 1879.

Many thanks, friend S. The idea is quite ingenious, and, since you speak of it, I am sure it can not fail to be valuable, inasmuch as one does not have to touch the wax at all. I do not know why a wooden sieve would not answer, although they are not so tidy. Wood sieves will be found in our 10 c. counter, and tin-rimmed sieves in our 25 c. counter. Tin pans for each, at the same prices. Just think of it! a wax-extractor, small size (3 qt.), complete, for only 20 c.; larger ones, capacity 2 gallons, only 50 c. A very large sieve will not be needed, for you can open the oven door and put in pieces of comb, just as you do with the ordinary wax-extractor; but, O my friends, beware you do not drop wax into the oven, and forget and let the whole arrangement boil over. Perhaps the occasional addition of cold water to the pan might be well. Tell your friend M. it looks as if we owed him a big debt of gratitude; and, boys, let us remember him.

ANOMALIES IN SCIENCE.

Friend Root:—Are there any known exceptions to a general law in nature? Can a perfect animal be produced without the assistance of the male element? If drones hatched from the eggs of a virgin queen are capable of fertilizing a queen, the affirmative of the above questions would seem to be proved. Can a correct conclusion be arrived at in regard to these anomalies? Who shall decide? The last paragraph under the head of Drones, in A B C, seems to point in the direction of your decision. Let us hear from science.

J. CHAPMAN.

Home, Newway Co., Mich., Jan. 14, 1880.

We meet with exceptions, or at least apparent exceptions, at almost every turn; and the fact that a queen bee will lay eggs which produce drones, without having met the male, is one of these exceptions. If we look into the matter still further, however, we find that other insects, besides queen bees show this same singular feature, and then this seems in accordance with a law before unknown, instead of an exception. My conjecture that a queen might even produce worker bees without fertilization is, if I am correct, still in accordance with law, as found in some other insects. It is still undecided as to whether drones from unfertile queens are useful or not.

"VISIT" FROM AN A B C SCHOLAR.

Dear Novice:—Owing to the inclemency of the weather, I have a spare half-hour to devote to "thinking." Must I tell you that I detest thinking to myself? and so I'll drop you a line, provided you have no objections. Our bees are in "tip-top" order, look clean and bright, and are bringing in pollen from maple and red-bud every minute when it is not showering down rain. Our rain showers to-day are exactly like the "April showers" we read about, but so seldom see, until late in the month of May.

MOVING BEES OFTEN.

I am just through moving my bees again. Poor things! I move them so often that it is a wonder they are not, in disposition, like the "western man's" poultry. He moved so often that whenever a covered wagon paused near the house, the chickens (thinking another move on the tapis) would instantly drop upon their backs and elevate their feet, in order to be tied readily. You may have heard of this circumstance before, but you were not acquainted with the man in question, and I believe I am. I moved the bees 100 yards, and did as directed by several eminent bee keepers, in the last National Convention,—just moved the hives, and placed a board slanting, in front of each hive's entrance. Not a bee returned to the old stand. I was truly pleased to find it such an easy matter, and so safe, with such a small quantity of exertion. Did I tell you that I am morbidly opposed to unnecessary bodily exertion? No? Well, truly, I am.

Several letters recently received induce me to believe that South-western North Carolina, the Blue Ridge Mountain district, is to be the future Eldorado of bee keepers. 'Tis said that box-hive men make enormous yields of honey in that region.

BORROWED THUNDER!

I was looking over my last year's numbers of A. B. J., and, on glancing over an article headed "Uniting Bees," on page 407, written by C. F. D., the language seemed familiar to me, and, after thinking over it a few minutes, I believed it *yours*. I picked up my

volume (recently neatly bound) of GLEANINGS for 1879, and on page 261, under heading "Uniting Bees," I found the same article written by yourself. C. F. D. (was he bashful in not placing his full name to another man's article?) evidently thought he was doing the A. B. J. a service; but I doubt if the editors of that journal are of his opinion. R. C. TAYLOR.

Wilmington, N. C., Jan. 28, 1880.

Thanks for your favorable report on setting a board before the hive, after moving the bees, friend T.; but are you sure it will always work as well? Were not the chickens you tell about of an unusually gentle breed? Surely, such submissiveness would be a desirable trait.

So far as I am personally concerned, I have no objection at all to having my writings copied, when they are of value; but for C. F. D.'s sake, I would enjoin him to remember that such things are dangerous, for they are almost sure to be found out, as in the present case. The article you mention, I wrote originally as an answer to an inquiry, and it may be found entire on page 260, Oct. No. 1877. What pleased me most about your letter, friend T., was your very neat price list on a postal, pictures of queens and all, evidently done with the cheirograph. I am glad to know you succeeded with it.

IS ITALIAN BLOOD "CATCHING"?

The Italian queen you sent me last May, I introduced according to your books, and succeeded splendidly. I say they can't be beat in the State. Also, I had a colony of black bees standing about one yard from them, and to-day they are extra hybrids. How does that come? There were many Italian drones last fall. We have 21 hives. We have lost none this winter. A. J. SAYER.

Hartford City, Mason Co., W. Va., Jan. 10, 1880.

I presume your black colony reared a new queen, and that she met one of the Italian drones. Italian bees would probably be found in the hive any way, if they were near together, for bees very often get into the wrong hive, in the working season, without being molested.

WHAT TO DO WITH ODD-SIZED FRAMES.

Friend Root:—Help me out of trouble. I bought some regular, standard, L. hives. The frames in my old hives are 4 in. shorter than I want them in L. hives. Now, would you cut comb out entirely, or take sides and bottom away and fasten the top piece in L. frame? Would you fill space left with fdn.? If hives are divided, will they swarm the same season, when worked for comb honey?

JAMES SHORE.

Germantown, Pa., Jan. 27, 1880.

I would take the odd-sized hives and make kindling wood of all of them, saving only the combs. Of these, I would transfer only the good worker comb, using all the rest for wax. I would use fdn. to fill the empty space in transferring. Hives that are divided will not be as likely to swarm, but it all depends on the season. With a steady, uninterrupted flow of honey, they may swarm again and again.

RAISING BEES, AND THEN LETTING THEM "RUN OFF."

Those queens we got of you show really fine progeny, which are of much better disposition than our black bees were. As we, in a quiet way, claim to be

your A B C scholars, and have your complete work, you may look for a statement of our progress some time during the coming summer. I will say this much now: In the spring of 1878, we started with two stands; in the spring of '79, with three; and, from present indications, will have nine the coming spring. Last season we worked for increase, and two fine swarms got away from us. This coming season, we expect to work for honey, and perhaps raise queens. BIGGER & SWALLOW.

Bellbrook, O., Jan. 8, 1880.

If you are coming into the A B C class, my friends, you must not let your bees get away; it is too much trouble to raise them. Besides, when they go off they are almost sure to do it just before the honey season, or right in the midst of it, and that, you see, is a double loss.

CALIFORNIA.

We had a sharp spell of cold weather about Christmas, making ice half an inch thick in many places, in the county where tomato vines have heretofore come through the winter unharmed. The past season has been harder on the bee keepers of Southern California than the dry season of 1877, and I am satisfied that there will be fewer bees to begin the season with, in this country, than we had two years ago. The past week has been warm enough for bees to fly, and the prospect now is that they will be at work on the willows very lively during the coming week. Manzanita has been in bloom in the mountains for over a month, but it has been too cold for the bees to get any benefit from it.

NATHAN H. SHAW.

San Buenaventura, Cal., Jan. 19, 1880.

TOADS AGAIN, AND HIVES ON THE GROUND.

I must tell you about my experience in following your advice. You recommend putting hives on the ground or on bricks; so, last spring, I tried it, as soon as I got bees into the Simplicities. I leveled up my bottom boards on 4 bricks, as you say, and thought, "Well, I am all right now;" and, to improve on your improvement, I put up a slanting alighting-board, and it was just grand to see the bees alight and travel up the board right into the hive. I happened to be near one evening, just about dusk, when I saw a number of toads about the hives. So I watched a short time, until one mounted the alighting-board, and I knew in a moment what was up. Before it was fully dark, I had killed 26 toads. I changed the hives the next day by planting a piece of 4 x 6 scantling, 3 ft. long, and leaving 12 in. out of the ground, and nailing a plank on the top, on which I set the hive, leaving the plank projecting enough for the bees to alight on. After that I had no trouble. T. L. DAVIDSON.

Early Branch, Hampton Co., S. C., Jan. 23, 1880.

I should object to your board, friend D., because it will soon warp and prove unsightly, and inconvenient for the bees. The inconvenience of having hives so perched up on a stake, when extracting, putting up pounds of bees, etc., to say nothing of having heavily laden bees fall to the ground (a prey to the toads after all), to me would more than counterbalance the time occupied in killing the toads, as you did the first night. If you followed that up, you would be rid of them in a very short time. I dislike the idea of killing the poor things, and, as they

are well known to be so useful in gardens, can we not have a garden so fenced up that the toads can be kept inside the inclosure, and allowed to live in peace and usefulness?

CHAFF HIVES VERSUS CELLAR WINTERING.

Last November, I put the most of my bees in the cellar, except a few which I left on their summer stands, with cushions on the sides and on top. They have wintered well, but the weather was warm and wet in Jan., which caused the cellar to be very damp; so I took 3 outdoor, and made chaff hives. The inside shell, I made of common lath; it struck me that the cracks between the lath would be grand for ventilation. I have been looking over about 30 colonies in the cellar to-day, and found 2 nearly dead with the dysentery, with plenty of sealed honey.

Now, I want to know if bees are as liable to the dysentery when packed in chaff on summer stands; and whether or not the damp cellar is the cause of dysentery in this case. Now, would it be safe for me to make outside shells, 4 in. larger than the regular hives, and pack in chaff? The hives are $\frac{3}{4}$ thick; or would you advise the inner shell thinner?

Meredith, N. Y., Feb. 5, '80. O. R. MUNSON.

I think the bees are less liable to dysentery when outdoor, packed in chaff; and, besides, if a suitable day occurs, they can then always fly out, of their own accord, and without any disturbance, such as carrying them out necessarily produces. Lath for the inside of chaff hives will answer nicely. I know of no objection, other than that it is a great deal of work. I first made the inside of narrow strips. I think thin wood is far better than inch boards, for the inner walls of chaff hives, for the reasons given.

EARLY QUEENS FROM THE SOUTH.

As it is just fun to raise queens here, by your directions given in the A B C, I would like to know, if I should succeed in raising a good quantity of early, untested queens from an imported mother, if I could sell them. As there are but few bees in this neighborhood, I think the most of them will prove pure; at least, the early ones did last season.

Pleasant Hill, S. C., Feb. 5, '80. W. S. CANTHEN.

Just go right to work and raise the queens, friend C., and I think I can pay you one dollar each for all you will deliver to me in March or April. A great many of our Southern friends have undertaken to do it, but I have never been able, so far, to get any until about the first of May.

SIMPSON AND SPIDER PLANTS, AND TEACHING BEES TO GATHER HONEY.

The Simpson honey plant that I got of friend Simpson, bloomed the first year as much as it could bloom the second year. I have had spider plants in my garden before I knew they were honey plants, but I never saw bees working on them; so I took a piece of comb honey, put it in front of a hive, got it full of bees, and then put them among the plants. In this way, I got them to work on the spider plant.

Louisville, Ky., Jan. 9, '80. LOUIS HOFSTATTER.

Those Simpson plants that friend S. sent out were extra nice, well rooted ones, and I hope he will have some more like them this spring. I have before imagined there was honey in the fields, which the bees had not discovered, and, as some colonies seem always behind others, is not this the reason?

Is not this the new trait that friend Hasty wants to develop? viz., a wide-awake disposition which will induce the bees to search for and discover the honey, the minute the blossoms begin to open.

REPORT FROM AN A B C SCHOLAR IN COLORADO.

I started last spring with one swarm of the yellow banded tribe, and have now 6 good swarms. I never tried to handle bees before last spring. Last fall, I took from those swarms, 200 lb. of comb honey, and left from 8 to 10 frames of honey to the swarm, to winter on. The frames are 12x14 in. I laid strips of wood across the frames, and then a chaff cushion, 10 in. thick, over them, and a cushion at each end, and 2 feet of chaff at the back and ends, leaving the fronts as in summer. Are they cared for right, to stand the winter?

HONEY FROM THE OAK.

I read in GLEANINGS about the bees working on the oaks. They work briskly on them here, but make dark honey from it.

H. H. C. BREECE.

Greenwood, Custer Co., Col., Dec. 22, 1879.

TAKING BEES OUT OF A TREE IN JANUARY.

On the 30th day of January, I cut a bee tree, and transferred the bees to a Simplicity hive. The bees weighed one pound. I gave them 2 frames of honey, and packed them up in good condition with chaff. By using caution, can I keep them until honey comes in the spring? I am only in my A B C. Any information would be thankfully received. They are doing nicely to date, yet it is quite cold.

Bean Blossom, Ind., Feb. 4, '80. W. FARMERLEE.

There will be no trouble in keeping them, I think, if you feed them so they do not starve.

FROM NEW ZEALAND.

Dear Brother:—I am threatened with the bee fever; and, just while I am brim-full, let me say a few words by way of easing the pressure on my brain. This is the way it came about. I began a few months ago to read "Bee-Keeping," by Quinby. I became deeply interested, made a box hive, and waited for swarming time (as swarms are given away here). In the meantime, I read up "Bee-Notes" in the *American Agriculturist*, from 1876 to present time. I found myself (and Quinby) far behind the times. I built a new Quinby Observatory hive, and a swarm put into that, a month ago, has about half filled the space with comb. I have had another swarm in a common box, about the same length of time. So I have started bee-keeping.

Last Christmas, I paid a visit to Oamaru (33 miles south), to my friend, and brother in the Lord, F. Every. He brought to my notice your journal, GLEANINGS, with which I was surprised and delighted; most especially, when I found you to be on the Lord's side. He lent me 11 numbers. I have read 4 of them and run through the others, and my brain is just on the whirl. So much is said about blacks, hybrids, and Italians, that I am fairly puzzled to know what kind mine are. They are brown bees, and are just the same (so far as I know) as all the bees I ever saw, either here or in England. I enclose samples, which please notice in GLEANINGS.

In my enthusiasm, I have carried along a Christian, Mr. Rout, who writes you by this mail to order the GLEANINGS and A. B. J. F. Every, or his brother J. H. Every,—Dunedin, has, I believe, ordered a Simplicity hive from you, which I hope to see when

it arrives. Hoping this is the beginning of a correspondence with you, that will be a source of pleasure and profit here below, and a never ending acquaintance above, I am

W. H. CLEMO.

Waimate, Canterbury, N. Z., Jan. 3, 1880.

Many thanks, friend C. The bees you send are the common, black bees of our own country. Do you know how they got on your island? That is, were they brought there, or were they found when the first missionaries landed? I shall be very glad indeed, if I can help introduce our favorites to you, in a way that will contribute to the happiness and comfort of your people, and our brothers in the Lord.

DOES CONFINEMENT TO THE HIVES CAUSE DYSENTERY?

The season of 1879 was the poorest for honey ever known in this locality; but bees are wintering very nearly as they did previous to 1871 and 2. There will be no loss in this locality, except by starvation, but loss from this cause will undoubtedly be considerable. I see an article going the rounds, which states that long confinement to the hive is the cause of dysentery, the same writer also comparing bees to mankind. Are such people lunatics or don't they know? I supposed that nature designed the honey bee as well as nearly all the insect creation to go into a partially dormant state on the approach of cold weather, and remain so for several months, without any injury to themselves whatever, provided their food, house, etc., is agreeable for them to spend the gloomy hours of winter in. If I have been laboring under false ideas, it is time I was corrected, and I hope that some kind brother among your many readers will rise up and explain. HIRAM ROOP.

Carson City, Mich., Feb. 8, 1880.

Gently, friend R. Although I entirely agree with you in thinking that bees should not be compared with human beings, yet I think that dysentery is often cured by a change in the weather that permits the bees to fly freely. Whether it is the new honey and pollen, or their being able to empty themselves, so to speak, I am at present unable to say positively. Some cases seem to indicate one conclusion, and others the other.

KEEPING EXTRA QUEENS IN CAGES.

A. I. Root:—Excuse me for asking you a few questions, as I am one of your A B C scholars. I have read your A B C book through twice, and cannot really satisfy myself just how to save my extra queens. I have 7 light swarms, each containing about two quarts of bees. I ought to have put two or three together when they swarmed; they would have done well, however, in an ordinarily good season, but we had a very dry summer, and old swarms made no surplus, while latish, young swarms did nothing. Now these 7, light swarms all have good, fertile, black queens, and I do not want to kill any of them, but I want to put the 7 colonies into 3; how can I save the extra queens until I want to use them? Please tell me. Can I cage them, and put the cages between the combs, in a swarm that has a queen, and not kick up a fuss in the hive? If so, do I want to put some worker bees in the cage with the queens? and how many with each queen?

MAPLE SUGAR AS A SUBSTITUTE FOR CANDY.

I went down cellar Saturday night, and looked

over my 23 swarms. They were all right except 3, which were out of honey, or nearly so. I gave each a pound of dry maple sugar, in the cake, and they eat it like fun. Is that the right way to feed it. But very few bees have died in my hives yet; I do not think there are over 2 quarts out of the whole 23 swarms. I look to them every week, and keep the dead bees swept out of the hives clean. Some of the large swarms sweat a little, and the bottom boards are somewhat moldy, but I have a cellar that is very warm, so that potatoes are sprouting in it, and so dry that the sand will run in it like dry powder. Are they too warm, do you think? They stay in the hives all right, and are not noisy, but you can hear a gentle buzzing as you walk through among them.

Greig, N. Y., Feb. 9, '80.

R. P. LOVEJOY.

You can save your queens by the plan you suggest, perhaps, but, friend L., why not let them go right along as they are, since you have wintered them thus far? A queen at liberty and laying is certainly worth more than one caged up, to say nothing of being far safer. You are on the right track, and have nothing to do but to go ahead, with the light you have. I have never fed any kind of candy with so good results, as with maple sugar. And I have decided this year, if it gets down to the price of coffee A, to buy all I can find. I once put over a colony, in March, a cake which had been made in a pan, and they ate it all in about a month, and built up into a powerful colony, almost ready to swarm, before natural sources yielded at all. Just put some maple sugar cakes over those weak colonies, and build them up. You will get along about as fast as by doubling, and you will have 7 colonies instead of 3. Your cellar is an excellent one I should say, but I would prefer to have the bees I am feeding, outdoor. When it is necessary to keep surplus queens, they should have a good lot of young bees in the cage with them, and there is so much danger of the cluster's moving away from them, thus letting them get chilled, I think I would prefer to have them in the house, where you can look at them quite often.

FLAT-BOTTOMED FDN. STARTERS, ETC.

I have used and sold considerable flat bottomed fdn. for starters in sections, 10 sq. ft. to the pound. I am convinced that the bees have to work the flat bottomed cell into natural shape by some means, as I never yet have seen any honey stored or brood raised, until the fdn. was so fixed. For this reason, I think, if we can get fdn. of natural shape, and *thin enough* for starters in sections, it will be preferable to the flat bottomed cell. Neither do I think very favorably of high side walls. They only tend to make the comb tough when one wants to eat it. I have great doubts about the bees working it out as much as a great many claim they do. They will not draw the fdn., as we term it, unless there is a good flow of honey, and then they have the means at their command to add new wax. The high side walls are all right for fdn. designed for brood comb. Fdn. for the brood chamber should never be over 5 sq. ft. to the pound, to work successfully. I have just been reading your plan for setting fdn. starters. It is essentially the same as I have used the past two seasons.

L. E. ST. JOHN.

Greene, Chen. Co., N. Y., Feb. 5, 1880.

THE SIMPSON HONEY PLANT.

I have had it under cultivation for two years past. I planted seed in a hot-bed, about Apr. 1st, 1878. It came up well, and was transplanted about the middle of May. It bore transplanting as well as tomatoes, and grew finely to about 6 ft. in height. It commenced to bloom Aug. 1st. I watched the first flowers anxiously, and there stood the honey; the flowers were full to the brim. For two days they were to be seen so, after which the bees would get there before I did, and they kept the honey almost out of sight all the time. It ceased blooming about Oct. 1st.

Last year, it came up early and strong, grew well, and commenced blooming a month earlier than the year before, and attracted lots of hornets, wasps, and flies, but no bees looked after it until about the 1st of Aug., although there was very little to gather elsewhere. But after Aug. 1st there was no more room for wasps and flies, for the bees took possession of every flower and held possession as long as it bloomed, which was until Sep. 5th.

GOLDEN ROD HONEY.

After Sept. 1st, we had an abundance of golden-rod that gave large quantities of honey, not only keeping the bees breeding late, but giving them plenty to winter on, and quite a large surplus for me; and it was the richest, toughest stuff of any thing in the honey line which I ever saw. This was probably owing to the very dry, warm autumn we had. During Oct., we had some very warm weather, and I tried extracting some of it, but it didn't work at all well; I couldn't get the combs clean, even with a high velocity, and it would fly out over the top of the extractor in fine spray that covered every thing near with a film of honey, and looked like dew on the grass (*this certainly was "honey dew"*). I had as good success in raising queens in Oct., as I had in July. There were lots of drones until the middle of Nov.

THE RED CLOVER QUEEN.

I must have a queen from that stock that gives so much honey. I have one colony of the same kind. For two years they have given me more than double what the yard has averaged, and I don't keep any poor stocks either. It never seems to be very strong in bees, but the honey comes right in, and is as beautiful as the best. The queen is pure, and the daughter of an imported queen.

SIZE OF ENTRANCES TO HONEY BOXES.

Can it be that the great majority of us are on the wrong track in reference to the size of entrances to the boxes (see Bee-notes in *American Agriculturist*, for last Oct.). If more honey will be stored with larger entrances, larger they must be; for it is the honey we are after. That is where our bread and butter comes from, and the wherewith to pay our debts. I should like to hear what others have to say about the size of the entrances. C. H. RUE.

Manalapan, N. J., Jan. 30, 1880.

If your extractor is of recent make, I hardly think it will produce any "honey dew," even if you have thick, golden-rod honey, friend R. The red clover queen is all right so far, and bids fair to become the mother of a great family, if we are enabled to fill all the orders for her daughters. I think it very likely that some of the honey boxes used are badly deficient in giving the bees entrances large enough, but I am sure our arrangement of section boxes and separators gives all the entrance that can be of any possible advantage

to the bees. They go all over the upper story almost as well as if there were no divisions at all.

AN A B C SCHOLAR'S REPORT.

I commenced in the spring of '79 with 14 colonies, part of them being weak. I transferred one of them to make sure that I could do that kind of a job; increased by 15 natural and one artificial swarm, and lost the first natural one. It was quite cool nights, so I put on the entrance blocks at night, and did not take them off the next morning, and "roasted" them out, to my sorrow. I doubled the rest up to 25, all told. Of 2 dollar queens, I lost one introducing (your moral, "Do not introduce the bees with the queen," did not get into Wisconsin soon enough), but the other one I put into the artificial swarm, and it was received with smiles. I have some doubt whether she is pure or not. I gave the queenless stock eggs from her, and they reared a queen that showed *four bands* and a *ring* (the mother had *five* and a *ring*). Most of her bees show three bands plainly. I have seen two or three, however, that looked doubtful, but they were too quick for me, so I did not get a chance to test them. I got 3 lb. of fdn. at the same time I got the queens. I had bees that would build straight combs without comb-guides, and some that would not with them. I tried starters in the brood frames, from 1 1/4 in. to half sheets, and every one were worked straight. So I have come to the conclusion, that if a person can not afford to use full sheets, it will pay him to use narrow strips, for the bees take to them with a will, and build straight combs, as far as my experience goes.

TRIANGULAR STARTERS.

I tried pointed and straight starters in the sections, but the flow of honey stopped just about then, so I did not have a chance to test them; but all the difference I can see in favor of the pointed is, that its lower edge has a longer line than the straight, therefore more bees can attach themselves to it at the same time to build comb. I believe I will try some in the brood frames next season, where the length of line will be enough greater to detect any difference which there may be in building them out.

We have had two very poor seasons, and if next is no better, I think I shall have to speak for a stall in Blasted Hopes; but will not blast the bees if I do.

I have had a notion in my head since last fall; viz., a machine that will take a board the right length for half a hive, and when it gets through it will be all ready to put together. If it can be done (and I think it can), it would send the cost of hives clear down cellar. Perhaps you and Mr. Gray could produce the kind of machine that would do the work. F. O. POLLEYS.

La Crosse, Wis., Jan. 31, 1880.

It is well for us to have a caution every now and then about smothering bees, as well as about introducing queens. I fear you are a little hasty in saying your bees have four bands and a "ring." Read what the A B C says about it, and then take another look, friend P. Your idea in regard to the advantage of triangular starters may be correct. Mr. Gray and I have talked a great deal about a machine that would take in rough boards and turn out finished hives, and there is no great difficulty in doing it. But suppose, after we get it built at a great

expense, something turns up so that we want a hive made differently; who would take the machine off our hands? This is one of the great troubles in making expensive, automatic machinery.

THE FIELD OF GLEANINGS.

I find it does not do to make much noise in GLEANINGS about any thing in the bee-line, except one is prepared to supply applications. My notice of the *Symphoricarpos* brought me inquiries and orders from the extremes of our own country, from British and continental Europe, and even from Australia. Although away down at the bottom of the "class" I had to respond in a fraternal way, as best I could, with seeds or plants.

Perhaps it is not the circulation of GLEANINGS so much as it is that all who read it, read it so intensely, if that is the proper expression. It is something like a live prayer-meeting; all are interested in every thing that is said, and most all of us have something to say. I hardly know how it comes, for it does not seem to be my doing.

SECOND GENERATION FROM IMPORTED MOTHERS.

I lost the queen you sent me, and find that one raised in the same hive, from her eggs, produces more highly colored workers and drones than the original did. Whether this is common or not I do not know.

The second or third generation seem, almost invariably, to be lighter colored and prettier bees.

The winter here is very mild. Not more than two weeks at a time, I think, were bees without a fly, and, after the worry of last summer in Italianizing, it just makes me feel good to see my yellow pets go for water in January. My reconstructed dry-goods boxes seem to answer all the purposes of a chaff hive, both summer and winter.

VENTILATION FOR SIMPLICITY COVERS.

I have been troubled for want of top ventilation in Simplicity hive; in fact, I have been obliged to throw the cover on one side, and use chaff cushions instead. As cold weather came on, the warm air would condense inside the cover. I wish you or Mr. Gray or some other of the "class leaders" would point a way out of that trouble.

Use the story and a half covers, friend T., if bees are to be kept in the Simplicity hives in cool or cold weather; this is just what those covers are intended for.

MAKING THE WATER TO RUN OFF FROM SIMPLICITY COVERS.

We have overcome the difficulty of having rain-water lying on the outside of the top, by having a sort of clamp, in which we put the top so as to have the shoulder groove on the end of the top a little shallower in the middle, so that when nailed down it rounds off to both sides, and no water lies on the cover outside, and I think it quite a desideratum.

G. W. THOMPSON.

Stelton Nurseries, Middlesex Co., N. J., Jan. '81.

I have often made covers slightly rounding, as you suggest, by warping them a little, just before we cut the rabbets around the edge. By setting the back end of the hive a little higher than the front, we can have the water run off, and still have a flat cover. I have several times thought it was much harder on the paint, where the water remained sometime on hives that stood ex-

actly level. The chaff-hive covers have so little surface that is exactly level. I suppose it will not matter.

DRONES IN JANUARY.

I was very agreeably surprised yesterday, while overhauling my bees, to find drones and about 160 cells of drone brood partly capped. The hive contains a large amount of worker brood. If I had known I had drones, I would have had some queens ready. I shall experiment soon, if the weather keeps warm. It is pleasant now, and the bees have been out in force nearly every day this month. Get your queens ready, and I will give you a dozen or two drones, if it keeps warm. The queen is a hybrid, and very prolific; she was reared in August. My bees, 60 stocks, are in good order, and I expect to winter without loss. I always rear queens from the stocks that winter best, and have not lost a single colony in over four years.

F. L. WRIGHT.

Plainfield, Mich., Jan. 18, 1880.

It is nothing so very strange, friend W., that you have drones now, with this very mild winter, but I think perhaps we would better not start any queens just yet, for the ground is now covered with snow, and it is winter after all.

EGGS REMAINING DORMANT; DOOLITTLE'S THEORY.

I have often noticed very young larvae, in colonies that had been queenless 9 days or more. Said larvae were generally confined to one comb, near the center of the hive, with very young queen cells started thereon, while the adjoining combs contained sealed queen cells, nearly ready to hatch. Now, whence cometh this larvae, unless friend Doolittle's theory be correct? I have noticed it alike in warm, as well as cool, weather, but generally in times of scarcity.

Santa Paula, Cal., Jan. 12, '80.

R. TOUCHTON.

At first, I was inclined to suggest a fertile worker; but, after giving the matter more thought, I remember having seen the same thing myself, quite a number of times, and wondering if they did not, by some means, hold back, as it were, a few of the eggs, that they might be able to rear another queen, if their first one was lost. I have given the matter some serious study, since friend D. advanced the idea, and the more I think of it, the more am I inclined to think that he is, at least partially, right. Now how do the bees manage this matter? We can't do it when we send eggs by mail; or, at least, we have not been able to do it heretofore.

A FEW REMARKS ON QUEEN-REARING, ETC.

Our friend Doolittle gives us a few interesting and valuable ideas on queen-rearing, in which he does not very highly approve of artificially "started" cells. I would like to offer a few remarks for your criticism as well as friend Doolittle's. Of course, we know if we have the natural cell from which to rear our queens, we have all that can be desired; and one like Mr. D., who has his bees all in one yard, can easily use natural cells; but as I have had bees in as many as 6 or 8 different places, I must use other means than natural swarming, and proceed as is possible. Deprive a stock from which you wish to rear cells, of all *unsealed* brood. The stock must contain many young as well as old bees. Insert in its center a comb, containing *eggs only*, from your breeding stock. In this case they have only newly laid eggs

from which to start cells, and your queens will not hatch in 6 or 7 days, but you can look for them in about 10 or 12 days. So far as my experience goes, these queens are as good as those from natural cells; at least, I have had them live 3 years and continue prolific too. I think the artificial cells that trouble us are those which are started with larvae 3 or 4 days old, and hence produce seven-day and short-lived queens. I have also had queens of the late Mr. Quinby's artificial rearing, which were as prolific as could be wished, for 3 years.

TO PREVENT COVERS FROM LEAKING.

If Mr. Frank Taber will use covers having a slight slant, and a ridge board about 2 in. wide, with nails long enough to clinch, driving about 3 on each edge, and then paint, he will have no farther trouble. This is preferable to using screws, and not one-tenth the cost.

WABBLING SAWS, AND HOW TO "WABBLE" THEM WITHOUT COLLARS.

If friend Scovell's saw (page 29, Jan. No.) has proper rapidity, and if, for a long board, he uses a gauge on both sides, or firmly holds it to the one side and does not crowd his saw, he will find one saw all that is needed so far as the wabbling of the board is concerned. I have grooved nearly or quite $\frac{1}{2}$ in. wide by $\frac{3}{4}$ in. deep, in hard wood (cherry), with $\frac{1}{8}$ in. saw and only one gauge, without the least trouble. It is not necessary to have collars to wabble a saw. Take a piece of rubber or leather of the proper thickness and $\frac{1}{4}$ in. square, put one piece between the saw and collar on one side, and another on the opposite side of the arbor and saw, both pieces, of course, near the edge of the collar. If your saw cuts too wide, you can tighten the nut a little, which will straighten the saw, and the small bit of rubber or leather will "give" so you can get the desirable wabble quicker than by using a collar.

Scriba, N. Y., Feb. 1, 1880.

F. H. CYRENIUS.

FDN. MACHINE WITH WOOD ROLLS.

There now! I have gone and done it; I have constructed a fdn. machine with wooden rolls; in fact, the whole machine is wood, with no metal about it, not even a nail. The rolls are 5 in. long, and 4 1-5 in. in circumference. I believe it would be equal to metal rolls, if the rolls were 9 or 10 in. in circumference. The timber I selected for the rolls and boxes is known here by two names, Sarvess Berry, and May Cherry. I do not know its true name. The wood is very hard and compact. When seasoned, it is harder than apple tree, very fine grained, and tough. I can make fdn. thick or thin, as I like. I will send you a sample, and I think you will say it is pretty well done for one who never saw a machine, or even the fdn., except a small piece sent me as a sample.

The sample of fdn., although some of the cells are a little irregular, is extremely well done, and, without doubt, will answer as well as any flat bottomed fdn. You must be a genius indeed, friend C., to have engraved all those walls by hand, as I suppose you did.

My 10 colonies of bees are wintering finely so far, all packed snugly in chaff, and I hope for a good season. I transferred 3 stocks (all I had) last spring, and got about 65 lb. of surplus, and 7 swarms.

HONEY FROM BLACK GUM.

The most of my surplus was from the Black Gum. This is a honey bearing tree that I have seen by the thousands, but never saw it mentioned in the jour-

al. The honey is not fit for table use, because of its bitter, pungent taste, and peculiar smell; but it is very valuable, as it comes in after apple and just before white clover bloom.

HOME-MADE SAW MANDRELS.

I would advise those who have more money than time, to purchase their saw mandrels, saws, etc. of the manufactures; for the time it takes to get a home-made mandrel to run right and true, as it should, will buy a new one, counting time at \$1.00 per 10 hours. I know this by experience with my mandrel (see p. 189, May GLEANINGS, '79). Although it runs well and true now, it took time, and patience too, to get it so; but for those who have plenty of time it will pay; for the knowledge gained, and the skill acquired, are worth a great deal.

T. J. COOK.

Mewpoint, Ind., Feb. 7, 1880.

DARK VERSUS LIGHT ITALIANS.

My dark Italians are decidedly the best honey gatherers, and the best fighters, and the best to defend themselves and stores. Give me the dark ones. I have one stock of these dark bees which, if you open the hive to examine them, will, apparently, take sight at your face, and go for you 10 feet away, but they are good workers, no better, however, than the other dark ones. I have to subdue them with smoke before I open the hive. My Italians are more belligerent than my blacks.

I believe your experience is that of others, in regard to light and dark colored Italians, but when we say dark Italians, we by no means mean hybrids.

GRAPE-SUGAR AND SYRUP.

What is the difference between the syrup of commerce, and glucose or grape-sugar? If I understand it rightly, the starch is first made into glucose or grape-sugar, then thinned and made into syrup. My bees will not touch the syrup. I cannot see the reason why, unless it is because there is more acid retained in the syrup than in the sugar or glucose.

GEO. H. FORMAN.

Ripley, O., Feb. 6, 1880.

Grape sugar cannot be melted so as to make glucose, by any chemist or anybody else, so far as I have been able to discover, although the two substances are both made at the same factory, and are nearly identical in composition.

SPRING DWINDLING.

Is spring dwindling a disease to which bees are subject, or is it a natural result from the bee-keeper's carelessness? Has it ever been in accordance with your experience or observations, that a colony of bees which were encouraged to rear brood late in the fall, and entered the winter with plenty of young and active bees, a full supply of stores, and a suitable hive sufficiently protected from cold, have ever haddwinding? If this question can be answered negatively, can we not say that, by careful attention, we no longer fear a loss from that cause? My idea is, should the season be an unfavorable one for bees to rear brood late, we should stimulate the queens, in this latitude, say from Sept. 25th, until the last of Oct., with plenty of good stores in the hive, and properly tucked up on their summer stands. I think, in that case, I would be willing to take the risk.

I now have 128 colonies in gums and box hives, booked to be transferred in the spring. They are

all going into Simplicity hives; your hive and neat little section boxes just take.

When I get rightly set to work transferring in the spring, would it not be a nice and enjoyable affair, if Novice would slip up behind, and just take a peep for a few minutes? Wishing you every success the coming year, I am—

R. B. ROBBINS.

Bloomdale, O., Feb. 5, 1880.

I should be most happy to slip up behind, I am sure, friend R., but it looks now as if you would have to come here and "slip up behind," for I am getting chained to my post closer and closer every day, as it seems. I hope you are right about the spring dwindling, but it is a matter on which "doctors" very much "disagree."

THE ADAMS HORSE-POWER; IT IS NOT A FAILURE AFTER ALL.

In January GLEANINGS, some one was blaming you for describing the Adams Horse-power, as it led him to make one, and afterward throw it on the waste-lumber pile. For your benefit as well as his, I will tell you I know where there is a home-made one, which cost the owner only \$7.00 besides his own labor. It runs a saw, with only one horse, cuts sections for sale, and everything else belonging to a complete hive. Instead of a rope, he uses a chain running on a pulley made to fit it. It does not stretch, run off, or slip, like a rope. I think if our friend had had a little more patience, and studied a while on it, he would have made a success of his. I find it takes only a trifle to make a great difference with machinery.

A TASTY APIARY.

I have 20 swarms of bees in chaff hives painted up quite fancifully. They look like a little village; and, as they face the road, I notice those passing generally take a good look. I intend sending you a picture of my yard when it is completed. I take more comfort with my bees than with anything else on the farm.

MITCHELL AGAIN.

One of the vendors of Mitchell's hives visited this community and soon found a victim, getting a colt, and a note to make up the amount of \$100. He and his friends lost every bee they put into his hives. The young man refuses to pay the note, and I guess the claim won't be pushed. There are a few bee-keepers in this place that such fellows never visit. They don't like the looks of a well-regulated yard of chaff hives; it displays a kind of knowledge they do not care to face. If I succeed in wintering all my bees, I shall want a good many supplies for myself and customers.

M. H. HUNT.

Bell Branch, Wayne Co., Mich., Feb. 4, 1880.

Many thanks, my friend. You say truly, that it takes but little to make machinery either a success or failure. Send a picture of that chaff-hive apiary, by all means. Mitchell's field is daily growing less and less, and, if we all take hold of the matter, he will soon be short of customers.

SPIDER AND SIMPSON PLANTS GROWN IN BOXES.

In reply to your article in Feb. GLEANINGS, on raising honey plants, I would say that I have been raising greenhouse and hot-bed garden plants for the last five years. If you think good, transplanted, and hardened plants could be sold by the dozen at 40 c., 100 @ \$3.00, 1000 @ \$25.00, "plants to be grown in small boxes and sent by express," I would undertake to raise a few thousand. I can't raise more, because

I need all my glass for cabbage and tomato plants. I would also like to give better rates; but as glass has gone up to \$4.00 per box, I don't see how I can do better.

M. RISER.

Columbus, O., Feb. 4, 1880.

WHAT AN A B C SCHOLAR DID.

Last spring I bought 6 colonies of bees, but they were culls. The man I bought of had 27 colonies. He sold 4 or 5 at \$6.00 a stand, then picked out 16 colonies for himself, and I bought the 6 remaining ones for \$21.00. Three of them were in common box hives, and the other 3 in frame hives. One of those in the frame hives almost perished. May 9th, I opened the hive, and there was scarcely a pint of bees in it, and only a little brood on 2 combs. Now I will tell you what my bees did for me. I increased the 6 to 15, and besides that, I lost 3 swarms. Two went to the woods, and one went to a swarm that belonged to my uncle, and I let him have them. I took considerably over 200 lb. of surplus honey. It was mostly stored in 6-pound boxes. My new colonies are all in frame hives which I made after night. I sold enough honey, at 12½ c. per lb., to amount to \$24.82, or \$3.82 more than my bees cost me; besides, I have 9 new colonies, which are all rich.

HENRY LIPP.

The Bend, Defiance Co., O., Feb. 5, 1880.

BUCKWHEAT; IT IS SOMETIMES A FAILURE.

I have this report to make on buckwheat: Last season, 5 acres of buckwheat were sown right over the fence from my bees, and 10 acres across the road; in short, about 100 acres were sown within 1½ miles of them. The most of it was plowed under when it was in full bloom, or after it began to fade; but several pieces remained and ripened, and the bees seemed to work well on it each forenoon; but, strange to say, I did not get a pound of honey from it all. So I have lost faith in buckwheat.

A. A. FRADENBURG.

Port Washington, O., Feb. 9, 1880.

COCKROACHES IN BEE HIVES.

Can you tell me how to rid my bee hives of cockroaches? They are a perfect pest. Though they may not injure the bees, I am sure they eat honey, for I have seen them at it. They can run down among the bees, with impunity; by the time the bees realize that the roach was there, the latter is off again in some remote crevice. Powdered borax won't do any good at all, and I frequently find them so thick in my hives, that I am alarmed. To the person who will give me a sure way of easily getting rid of these pests entirely, without injury to the bees, or hives and fixtures (recipe to be sent by mail to me), I will send, at any time after March 15th, one Italian queen reared from imported mother.

Wilmington, N. C., Feb. 7, '80.

R. C. TAYLOR.

I am inclined to think, friend T., the insects only go there because of the warmth, and do no real harm to the bees or honey. My remedy would be to get the hives so full of bees they would find no room. Perhaps others can do better.

TO MAKE LABELS ADHERE TO TIN.

I will give you my preparation for labeling on tin. Boiling water 1 qt., pulverized borax 2 oz.; put in borax, then add gum shellac 4 oz., and boil until dissolved. For your gummed labels I merely wet the tin with borax water.

G. H. PIERCE.

Winooski, Wis., Jan. 22, 1880.

Friend Root:—In reading friend Smith's article, Jan. No., page 27, it occurred to me that he might have made a mistake, and had a *young* queen raised, if he gave the swarm no brood until July 20th. A young queen generally commences to lay within 8 or 10 days after swarming. They had time to get a queen hatched by August 1st, and fertilized by the 10th. I suggest that a young queen *might* have hatched and killed the other.

Your suggestion is an idea I had not thought of; when we take into consideration the great difficulty of telling one queen from another, especially when they are unfertile, I am inclined, too, to think that friend S. was deceived, and that a live queen had come from one of those torn down cells, and killed the other.

DO QUEENS EVER LAY IN A FINISHED QUEEN CELL?

In the summer of '78, I had a box hive with a 10x12 glass in one end, to which the ends of the combs were fastened. When about to swarm, the year before, the bees had built cells within an inch of the glass. Early in June, '78, the bees enlarged the old cell cups to about half the size of queen cells. I watched closely, but could see nothing until at least a week after the cells were enlarged; then I saw very small larvae. Now the queen either laid in the cell after it was enlarged, or the bees moved the egg.

I have always supposed that queens would lay, during swarming time, in a queen cell built out, but it *may* be that the bees put the eggs there.

FDN. WITH SQUARE CELLS.

Have you any reports of fdn. made by sawing squares in a block of wood for an impression? The cells are started *square*, and gradually assume the hexagonal form, and are drawn into *regular* comb. I think the bees make the base of the cells thinner, than they do the other kind of fdn., as they make the base the same as other comb. I tried it in quite a number of boxes, in cool weather. J. B. CASE.

Baptisttown, N. J., Jan. 20, 1880.

We had three reports last season from cells built on square fdn. (see pages 227, 239, and 273), but, as there is, to me, something very difficult to understand, about bees making comb from square cells, unless they tear it all down and build it entirely new, I have sent to friend F. for a piece of comb built from such fdn. Will you also send me a piece in a box, by mail? The idea seems to throw light on our project of being able to dip fdn. with walls on both sides. It seems that any sort of an outline, to guide the bees in making cells of the proper size, is all that is needed. Friend Abbott, of the *British Bee Journal*, for some months past, has been talking of fdn. made by plates or rolls of wood, with round headed tacks or nails driven into them. The same idea was given in GLEANINGS several years ago, and fdn. that the bees would use was made by the plan, long before he mentioned it. It takes too much wax is all the trouble.

AN A B C SCHOLAR IN TROUBLE; QUEENLESS HIVES IN THE SPRING.

My bees are bringing in pollen, and I find brood in one hive only. I have 15 stands, 5 in the *Simplicity*, one in the *L.* hive, and the remainder in box hives. I examined the *Simplicities* yesterday and found brood in only one, and could not find the queen in

any of the others. I took one frame of brood, and put it in one of the other hives; was that right? I put the frame from the other hive in the place of the one I took out; was that right? My bees have plenty of stores. From one stand, on which I had left the second story, I took out yesterday 6 frames of sealed honey, and put in their place the same number of frames with fdn. The lower story was well supplied with stores, and the colony was strong, but there was no brood. I will examine again in a few days, if the weather keeps warm, for I still think the others have queens, and, if I can't find brood or the lady herself, I will take another frame from the one hive which has brood. I suppose that they will rear a queen from brood or eggs from another colony. Two of the colonies are not working, or are working very indifferently, while the others are busy.

Early Branch, S. C., Jan. 29, '80. T. L. DAVIDSON.

I fear, my friend, from the tone of your letter, that you have about 13 colonies too many. How came you with 15 colonies, and so little knowledge of bees? As you have them, perhaps you will pull through. It would be very singular indeed if you should have 4 out of 5 of your stocks queenless. From your description, I am inclined to think your stocks have queens, and brood too, but your inexperienced eyes did not see it. If, after several days, you do not find either queens or eggs (hold the combs up so the sun will shine clear to the bottoms of the cells, and then make the bees get away, while you take a good look right where they seem inclined to cluster thickest, and see if there are no eggs there), something must be done. If they are strong in bees, it may do to give them some brood and let them raise a queen; but taking a full frame of brood from a colony, at this time of the year, would be pretty sure to injure it seriously, and even should you select a frame at one side, containing but little brood, as it would contain much of their pollen, it would be rather a set back to them. If your colonies that are queenless are weak, I should prefer uniting them with other weak ones, rather than to set them to raising a queen. I presume you shook off all the bees from your combs before making these changes; if you did not, there is great danger of your having made more mischief. As a general thing, I cannot favor very much the plan of taking combs of brood so early in the season, to build up weaker ones. Better unite them. Leaving an upper story on all winter is rather a careless and wasteful way of doing, and I shouldn't expect to find brood in a hive thus poorly protected. May this not be why so many of your colonies have so little or no brood? The colonies that are not working may be queenless.

HANDLING BEES IN WINTER, DEAD BEES IN THE HIVE, ETC.

How warm should the weather be for the convenient handling of bees? Why do they not carry out their dead? and why do we find more dead in one hive than another? F. W. WINTERS.

Onondaga, Mich.

You can handle bees almost any day in the year if necessary, but I prefer to have it warm enough to melt snow slightly. A good strong colony, in good health, should carry out the dead bees at every thaw. If the colony is weak, or suffering from any other cause, they will be likely to neglect carrying out the dead bees, thus leaving them to accumulate.

TRANSFERRING IN THE FALL.

In the latter part of August, 1879, I wrote to Chas. Dadant & Son, asking for their lowest price for queens so late in the season, also asking their advice in regard to transferring bees in August and September. They wrote me not to attempt to transfer so late; as they had tried it so often and so often failed, they would not advise any one to do it, and they did not send me any price for queens. I then wrote to W. Z. Hutchinson of Rogersville, Michigan, and he wrote me to transfer, and he would furnish me as many queens as I wanted for 75c. each. I sent for 10 or 12 queens. I commenced upon my old box hives, by taking them, one at a time, into a hunter's tent, mosquito tight. I turned the hive bottom end up, allowing the top to rest on an empty box, and chiseled the wood away from the nails of two sides of the hive, and drew the nails with a neat, small, claw hammer, blowing in smoke of course, to keep the bees out of the way. When the two boards were removed, it was so easy to cut out the combs and fasten them in the Simplicity frames. I put in all combs that had brood and honey, rejecting drone comb, dividing as I went along equally into two Simplicity hives. When the combs were all cut out of the old hive, the bees were in the empty box underneath, of course. I then used a tin dipper to divide the bees, watching each dipperful to see which hive the queen went into, so as to know where to put the Hutchinson Italians. I then fed them every evening $\frac{1}{4}$ to $\frac{1}{2}$ lb. of honey, which I happened to have from 8 hives that had spring-dwindled to nothing, leaving 15 to 30 lb. of honey in each hive. I transferred and divided 16 old box-hive colonies, in that way, and they are all right so far. I have them in the cellar, on bottom board hollow side up, with screen wire over the end to give air.

Geneseo, Ill., Feb. 10, '80.

JAMES MORTON.

If transferring is done in the thorough way in which you seem to have done it, friend M., I should have little fear of any bad consequences. Especially do I approve of your idea of feeding them after the operation until they have every thing nicely built up. Broken combs are like broken bones; they will grow together sound and healthy, if abundance of material in the shape of food is at hand. Another point I wish to commend: You say you cut away the wood until you could draw the nails with a neat, small, claw hammer; you took out the nails quietly, as you can do with good, nice tools, and a nice, fine, steel hammer may make all the difference between success and failure, in doing such work. Let us hear how the bees transferred in August finally come out.

I have lost no bees yet, but I don't expect to get through the spring with my 17 colonies. Last summer I got only one natural swarm and 60 lb. of honey from 16 stands. The honey crop was a failure. In 1878, I got over 1800 lb. of honey from 21 stands, and increased to 43 stands. My success that season created quite a demand for bees, and I sold or traded off 27 stands at \$5.00 a piece. And now some of those friends suspect me of foretelling events,—too much credit for one man. Don't you think so?

Friend Hutchinson tells us in the Dec. No. about his two little "Brown Eyes." I won't be quite so modest as friend H., and wait a year, but tell you now about our little "Blue Eyes," before she is quite

6 months old. And considering she is all the little folks at our house, we could not keep house without her now, even if she does (like your new baby) send greetings all through the house and immediate neighborhood sometimes. Friend Root, you got up a medley of bee-keepers; why not get up one of bee-keepers' babies? Wouldn't that be "jolly"? Speak quick, and I will send a photo of the best-looking baby.

A. S. DAVISON.

Aullville, Mo., Feb. 5, 1880.

CANDY FOR BEES.

I received the grape sugar, and have made some candy, but it is not right—it won't harden. I made a $4\frac{1}{2}$ lb. batch, weighing the sugar and flour. It has stood 36 hours, and is so soft it will run all over. Can you tell me the reason? I had trouble in making candy of coffee sugar too. It would not crumble in cold weather, and when cooked to a certain point it would grain in less than half a minute. If I had not stood over it, it would certainly have burnt. Now, what was the matter with that?

If your grape-sugar candy was made according to directions, putting in the coffee A after the grape sugar was cold, or nearly so, it will certainly harden. If it is not hard in 36 hours, wait a little longer. The softer it is without running, the better; for the bees can take it up much better when it is a sort of a paste. Our greatest difficulty has been to make candy that will not get too hard. Your coffee-sugar candy that persists in graining may be prevented by the addition of a small quantity of vinegar; but a little grape sugar answers far better, and is, I think, better for the bees.

WAS IT AN ACCIDENT?

I want to tell you about a colony that had been queenless several weeks. They had made queen cells, which, in due time, had been broken open; but, after waiting 18 or 20 days, I could not find any queen, or see any signs of any. I procured a queen and caged her, then let her out on the frames. She rose and flew. I watched for her, but, unnoticed by me, she came back, and pretty soon I saw her on the frames. I shut the hive (this was 9 or 10 A.M.), and did not open it again until about 5 P.M. As I went to the hive, I glanced at a cup of water which I had about 5 feet behind the hive, and, lo! there was my queen. I think they killed her, brought her out, and, in flying off with her, dropped her in the water.

HENRY KNAPP.

Oxford, Mich., Feb. 9, 1880.

I have chosen this incident to illustrate a point, giving it as my opinion that the queen was not injured at all by the bees, but came out for another airing, as they often do, and fell into the cup of water. I presume, friend K., you had the cup of water there for the purpose of tumbling the bees into it if they balled the queen, which is a very good way to do, if you only pick up your cup and everything else when you go away. Many will say that such mishaps are the result of accidents that could not well have been foreseen. Almost all such accidents can be foreseen and guarded against. A wash-basin is an excellent thing about or near an apiary, but it should never be left with water in it. I have seen bees drowned day after day, right under the nose of their keeper, and, although he plainly saw them buzzing

helplessly in some such utensil, he took no pains to empty out the water and hang up the basin, as it should have been. I do not mean to find fault, friend K., but I wish all to take warning from your experience, and not leave cups of water where bees may fall into them.

Notes and Queries.

I HAVE been in the A B C class in bee-keeping for more than 20 long years, and have gravitated from Blasted Hopes to Smiley and *vice versa*, and am just now crossing over into the promised land, where milk and honey abound.

GRAPE-SUGAR CANDY.

I have tried the grape-sugar candy with good success. It is just what I have been searching for these many years; but my experience tells me, it is hazardous business to try to carry colonies through a cold season on that alone. I would prefer having stores in the combs where bees can nestle during cold spells, and use the candy to bridge over with.

EIGHT-FRAME HIVES.

I see D. W. Fletcher makes inquiries in Feb. No., in regard to 8-frame, L. hives. I tried that experiment some years ago, under very similar circumstances, and came to grief. It did very well in summer, but in winter the bees did not do well, and I landed in Blasted Hopes.

SAMUEL RAU.

Homeworth, O., Feb. 16, 1880.

SMUT FROM A STRAW STACK AS A POLLEN SUBSTITUTE.

I have been to Wm. Cook's to-day, where I have 16 colonies. The day was fine, and bees were flying fast. On approaching the bee-yard, I noticed that the little fellows were very jolly, and making a bee-line for a straw stack in the barn-yard. What! bees eating straw? Well, there they were, literally swarming, tearing down and digging into the straw and chaff, just as though the best one had to be foremost. Then Mr. Cook mentioned that there had been much smut in his wheat, and perhaps that was what they were after. A closer examination proved it to be so. They have been noticed by Mr. Cook, working on the stack for some time past, whenever the weather permitted. We opened the hives and found the smut there, packed away near by the brood. They are raising brood nicely, and are at present in fine condition. Has anyone noticed this heretofore? Is it injurious to them or not? Who can tell?

G. J. YODER.

Vistula, Ind., Feb. 16, 1880.

PLANK HIVES VERSUS CHAFF HIVES.

My bees, 20 swarms, have wintered nicely so far. I use permanent two-story hives, the lower story of which is made of 2 in., soft-pine plank, with short L. frame, and upper frame running crosswise. I am well satisfied so far with these short frames, holding 6 of the $4\frac{1}{4} \times 4\frac{1}{4}$ sections. My bees put brood in the outside frame of the plank hive, just the same as in a chaff hive.

P. UNDERWOOD.

North Lawrence, Kas., Feb. 9, 1880.

INK FOR THE CHEIROGRAPH.

That gelatine pad works splendidly; the ink, however, can be much improved by using part *acetic acid*, instead of all water, in dissolving aniline.

Heilmantale, Pa., Feb. 7, '80. A. F. HELLMAN.

LAYING OUT AN APIARY.

Wishing to start an apiary of about 150 colonies, consisting of 7 apiaries of 19 colonies each, I would be much pleased if you could give me a little information as to how to lay it off. I want it about the same as yours. What are you going to use for trellises? How far apart did you set your evergreens for hedge? What kind of evergreens did you use?

Uhrichsville, O., Feb. 14, '80. F. J. WARDELL.

[We shall make the trellises exactly as described in A B C, except that we may use oak posts only $2\frac{1}{2}$ in. square. The hedge is Norway pine, and the trees are 10 feet apart. To lay out the apiaries, get three, light, pine sticks, $14\frac{1}{2}$ ft. long, and bore holes near each end, just 14 ft. from each other. Lay these poles on the ground in the form of a triangle, and put an iron pin through the holes at each corner. Using one corner as a centre, swing your triangle around it, moving it each time from one pin to the next. Stick a stake at each corner, and at the middle of each pole, every time you move it, and you will have a hexagonal apiary staked out exactly, for 19 hives. I would have the different apiaries separated by roadways of about 21 ft. in width.]

A UNIFORM LENGTH OF FRAMES.

Let all use the same length of top-bar. It is so annoying to get a frame of nice brood from somebody, and not be able to get it into your hive; and it is simply provoking, to procure a lot of hives from somebody, and then have to transfer, change, or throw away the whole lot. Well, why not all *adopt the Langstroth length*? then each could make his hives deeper or shallower, or narrower or wider, as climate or fancy might dictate. That would be a considerable advance toward general convenience: then, in these interchanges, we readily change the end bars, and thus utilize the frames of comb. Perhaps that will be as near an approach to similarity of hive as would be worthy of universal adoption. A shallow hive is more suitable, doubtless, to our climate, than to a northerly one. We find no difficulty here in wintering on frames $6\frac{1}{2}$ in. deep. I am using that depth, with top-bar 19 in. long satisfactorily. — I have now 128 colonies, all Italians and hybrids.

WM. L. GORDEN.

Shreveport, La., Feb. 12, 1880.

THE FAMILY GRINDSTONE.

I received the "grinder" last week Tuesday, and our family are sharpening up *some*. What a blessing to a "dull" community! It is the best grinder and polisher I ever saw for general use.

KILLBUCK, N. Y., Feb. 16, 1880.

WM. FOLTS.

DRONES IN JANUARY.

I have about 40 colonies of bees, about one half being Italians. They are in good condition. From one colony, I saw drones flying the 20th of January. I do not expect you will believe it, but it is a fact. I have been feeding flour in December and January.

SAMUEL AMBLER.

Ambler, Belmont Co., O., Feb. 11, 1880.

[Certainly I believe you, friend A., for I am sure none of you would make such a statement unless it was so. If the drones are reared by a good, healthy, prolific queen, it indicates prosperity; but, are you sure it is not an unprofitable drone layer that produced them?]

WHY DID THEY DIE?

I bought a heavy swarm of blacks last fall; and put them in my cellar; and, for some reason, they

have all died. The frames (8 of them) are well filled with honey, so they did not lack for food. They sweat so that the hive was very damp, which may be the reason of their dying. I never had anything to do with bees before, so did not know what to do.

Joyfield, Mich., Feb. 9, '80. WM. A. JOY.

[I should infer, from the description, that their stores were not wholesome, or, at least, that they were of such a nature as to be unsuitable for confinement. Had they been outdoors and permitted to fly, as they would doubtless have done during our warm winter, I think they would have got along very well.]

WHAT IS THE MATTER WITH THE BEES?

My bees are all in chaff hives warm and good, but they die off by handfuls every day, and lie on the bottom board or in front of the entrance, or come out one after the other, and fall on the snow and die. I think they have the dysentery. What can I do with them? I have a one inch ventilation hole on the top of the hive, but they come out, and are bound to come out. In the spring they carry away lots of meal. Can I give them as much as they will take? The weather has been cold from November till now, when it is raining, but the bees had one good fly in January. They all have eggs and larvae.

Bell Plain, Wis., Feb. 12, '80. JOHAN JACKEL.

[It is doubtless a feature of our late wintering troubles, and, if they are well packed as you say, I do not know what the especial trouble is, unless it is improper food. If they take so much meal as to store it in their combs, it may do harm, as I have explained heretofore. I do not see why you have a hole in the top of the hive; chaff hives have no opening aside from the entrance. May not this—having a cold draft constantly through the hive—be the cause of a part of your troubles?]

Please excuse this sheet's being wrong side up; I haven't had scarcely any sleep for 3 nights back; my baby has been very sick, but is better to-night.

S Cuyler, N. Y., Jan. 26, '80. G. H. C. POTTER.

[To be sure, you are excusable. Take good care of the baby, friend P. Give it a kiss for me, and may God bless you both. I am glad it is better.]

BLACKS AND HYBRIDS: WHO WANTS THEM?

I expect to unite a few, weak colonies, this spring, and will have a few surplus queens, black and hybrid. Will they be of any use to you, or would I better pinch their heads off and throw them away?

Ripley, O., Feb. 17, '80. LIZZIE MCCONNELL.

[For mutual accommodation I will give the names free of those having such queens to spare. Of course, those wanting them will furnish cages and pay postage.]

WHEN AND HOW TO TAKE BEES OUT OF THE CELLAR.

The second week in April is soon enough, down here, to take bees out, as a general thing. The journals insist on setting them out on a warm, sunny day, which, I think, is wrong. Set them out on a cloudy day, and not half so many of the bees will fly at once. I would rather have a fine mist of rain falling, than to have the sun shining, then only a few fly at once, and they are not nearly so apt to swarm out and become confused.

SWARMING OUT IN THE SPRING.

When so many fly at once, it has a tendency to put the swarming fever on some that are already discouraged; such as the queenless, and those short of stores. Sometimes strong, healthy colonies are induced to come out after hearing others buzzing

round for days. When once in the habit of swarming out, they seldom ever do any good afterwards. An ounce of preventive is said to be worth a pound of cure. Try it.

R. A. PARKER.

Abbingdon, Ill., Feb. 14, 1880.

ALSIKE IN NEW HAMPSHIRE.

I have sowed Alsike now for 10 years. The wetter the land, provided water does not stand on it, the stouter it grows. We cultivate but 10 acres all together, and average 3 tons of hay to the acre. With us, there is no second crop of Alsike. We sow red clover with it for a second crop. I have never been able to see that much honey was obtained from it, and have seen it when the smell from it was sickening, it was so sweet. Honey is very dull of sale at the East.

E. C. NEWELL.

Brookfield, Carroll Co., N. H., Feb. 16, 1880.

BLUE THISTLE.

We have blue thistle in any quantity. I think, if I was handy to a railroad, I would just fill an old freight car full of plants, and start it up to you. We consider it a great pest. I do not think it amounts to much as a honey plant.

STENCIL PLATES FOR MARKING BEE-HIVES.

Can you furnish brass or tin sheets with letters cut in them for lettering bee-hives? A. H. DUFF.

Flat Ridge, O., Feb. 7, 1880.

[We do not letter our hives. One reason is that they need painting frequently for looks, as well as durability, and it is so much trouble to paint the stencil over again. Doubtless some of our readers can furnish the plates.]

I think my Italians and hybrids are more stirring and energetic than the blacks. My hybrids beat all for robbing that I ever saw. A black colony, or a weak Italian stock, stands no more chance among hybrids than a ——— candidate has for the presidency. They are prowling about every hive, and one of my neighbors, who lives a mile away, says it has been his regular business every Sunday this winter, to sit at his hives all day and help his blacks kill Italians. My hybrids are also all ahead of my full-bloods in brood rearing this spring.

Cabot, Ark., Feb. 16, '80.

B. F. CATHEY.

[Friend C., you want to stop for that neighbor, and induce him to go with you to Sunday School, instead of breaking two of the ten commandments at one clip. Give him some Italians, lend him a bee-journal, and have him employed, if possible, in building his neighbors up, instead of killing their bees. I know, for I used to pass my Sunday afternoons in much the same way.]

PLANING-MILL SHAVINGS FOR PACKING.

My bees are doing well to date. I have them packed in planing-mill shavings. Those packed in shavings in this neighborhood last winter came through all right, and have done well; and those that were packed in straw lost heavily, and their bees have done little or nothing.

Eagleton, Wis., Feb. 5, '80.

WM. CHRYSTAL.

[I can but think, my friend, that it is due to something else besides the packing, that you have such different results. No doubt, fine shavings would be better than straw, but I am better satisfied with soft chaff, well packed down, than with either.]

I am a beginner with bees. I commenced last spring with 6 swarms, increased to 14, and got about 150 lb. of honey.

J. W. SMITH.

Pilot Knob, Adams Co., Wis., Feb. 11, 1880.

HOW TO GET SPIDER AND SIMPSON PLANTS.

I am going to get my Sunday-school class to raising spider plants. So, look out for them.

E. W. HALE.

Wirt C. H., W. Va., Jan. 13, 1880.

HONEY-GATHERING IN JANUARY, IN THE STATE OF OHIO.

W. S. Boyd, Hamilton, Butler Co., Ohio, sends us some soft-maple blossoms, with the following extract from the *Hamilton Daily News* of Jan. 28:

The singular spectacle of honey-bees storing honey in the month of January is one of the phenomena of this exceptionally warm winter.

A CHANGE IN CIRCUMSTANCES.

Last year, I was not able to take GLEANINGS. This year, I am not able to do without it. G. W. WHITE.

Victor, Iowa Co., Ia., Jan. 12, 1880.

BLUE THISTLE; A CAUTION.

A. I. Root:—Beware of that blue thistle. It is a real nuisance in Loudon and Fairfax counties, Va. In fact, I am informed on good authority that it takes possession of the land in places. Please inquire into its nature at least.

J. S. WILSON.

Sterling, Ill., Feb. 5, 1880.

SAWS THAT ARE TOO HARD.

The last file you sent me is no better than the first. I filed 13 teeth in a thin 6 inch saw, and the corners are entirely worn out. I mailed you both to-day. The one with the ink mark is the last sent.

Tiffin, O., Feb. 5, 1880.

MARCUS HOLT.

[The files our friend returned are of the best grade, Johnson files, and so we carried them to our saw-filer to try. He pronounced them of excellent temper, but said he thought they had been used on a saw too hard for any file. As we have had one or two such from our friends, Simons Manufacturing Co., we shall have to give them notice to be a little more careful in tempering their excellent saws. Such a saw would do excellent service, but it would be a task to put it in order, unless one used an emery wheel.]

RUBBER GLOVES.

I wonder why you protest against rubber gloves, since one does not want to be stung.

MISS MARY F. EASTMAN.

Tewksburg, Mass., Feb. 9, 1880.

[Just because "one does not wish to be stung." I think our A B C class will be stung more with rubber gloves, or gloves of any kind, than they will without them.]

FROM CALIFORNIA.

We have just now got returns from our honey sent to England 17 months since. Bees are probably reduced one-half from what they were in Southern California, at this time last season. What are left, are weak. The unprecedented, hard freezing of the past few weeks retards breeding, but there is rain sufficient to ensure a crop of honey. I had 80 hives of bees set in a newly plowed, sandy field; a strong east wind blew the sand into the hives, closing the entrances, and smothering about 30 colonies.

San Buenaventura, Cal., Feb. 2, '80. R. WILKIN.

BEARING EACH OTHER'S BURDENS.

I live in the mountains, and have been sick since last June. For weeks, the Dr. gave no hope of my recovery, and I am still weak, and so helpless that I cannot yet use a pen, and my writing is difficult to read. I feel in better spirits for trying to write,

which I know will make you glad for me. I have just read what you say about sage. If I am well enough next summer, I will get you plenty of white sage, at a price you can afford to pay, and will do it willingly too. Then hurrah! for GLEANINGS and a smoker.

MRS. W. W. WILSON.

San Bernardino, Cal., Jan. 31, 1880.

[God bless you, my friend. It has done me good too, to read your letter, even if the letters are a little tremblingly made. The thought that GLEANINGS has cheered you while sick and away off in the mountains, makes me thankful not only for health, but also for the ability to cheer anybody. I am glad you feel better and pray that you may have health, and, with it, the will to cheer others about you, and—to send us some sage seeds.]

CLARK'S COLD BLAST SMOKER.

Does the nozzle point right? It looks to me like a "breech shooter." I should prefer to have the smoke go in the opposite direction when operating the bellows, and think I would order one, if made in that way. I think I would prefer it to the Simplicity.

FRANCIS BAKER.

Marcellus, Onondaga Co., N. Y., Feb. 9, 1880.

[The original Clark smoker did have the nozzle pointing the other way, but I changed it, thinking the present arrangement more compact and convenient. It seems I also got an erroneous idea of the way in which friend Clark used his cold blast smoker; for, in a recent letter, he says he lays the smoker on its side when not in use, allowing the smoke to go out of the draft hole instead of the nozzle. There are difficulties in the way of such an arrangement, that I have not succeeded in obviating to my satisfaction, and so have allowed the smoker to remain as it is, for many think it now the best smoker in use.]

FASTENING COMBS FOR TRANSFERRING AND SHIP-PING.

Tie the lower ends of two sticks together so as to just fit the bottom bar. Bring them up, one on each side of the frame, and fasten at the top. If it is well done, and the sticks are of the right size, it will effectually prevent all breaking down of combs in full frames, or crushing of bees. The sticks should be a little back or forward of the sticks on the next frame, so as not to come in contact with each other.

Cassville, Mo.

MARY A. TERRY.

[Your plan, though old, is a very good one, friend Mary. The principal objection is, that it is rather more trouble than some of the modern appliances.]

HOW MUCH DO BEES PAY?

Can you tell me what the average profit has been, on 10 or more hives of bees, for—say 10 years, in any case that has come to your knowledge?

Newark, N. J., Feb. 10, 1880. WM. EARLE CASS.

[Several reports from a series of years have been given in our back Nos. The results are so very diverse, that it seems to me, it is the man, and not the bees, that is to be considered. The locality and the race of bees have something to do with it, but the man that owns them, far more. At a very rude guess, I might say that I think the readers of GLEANINGS would average, year after year, \$5.00 per colony, including the A B C class, Blasted Hopes, and all, and that, too, after paying them for all the necessary work they do with their bees at the usual wages among farmers.]

SIMPSON AND SPIDER PLANTS.

As I am a grower of hot-bed plants, and have been for years, I can furnish you with all the spider plants, or any other variety of hot-bed plants, you or any body else may need, at prices you have named in GLEANINGS, or even lower; and will take fdn. and other apiarian supplies.

J. K. GREENOUGH.

Mechanicsburg, Champ. Co., O., Feb. 11, 1880.

ITALIANIZING; CUTTING OUT DRONE BROOD, ETC.

We have 13 swarms of black bees. Can I not buy a tested queen, and Italianize by cutting out all drone comb from the other hives and thus avoid hybrids?

MRS. JENNIE HOWARD.

Lawsville Center, Susq. Co., Pa., Feb. 3, 1880.

[Cutting out all drone comb will do something toward preventing hybrids, if followed up faithfully; and, in time, you can Italianize all your stocks, no matter how many black bees there are belonging to neighbors around you, or in the woods, where cutting out the drone comb would be an impossibility.]

THE SHORT L. FRAME COMPARED WITH THE GALLUP AND THE AMERICAN FRAME.

Are the frames made to fit the Simplicity hive crosswise as good, summer and winter, as the Gallup or American frame? D. B.

Sandy Hill, N. Y., Feb. 2, 1880.

[I should consider them better than either, because they are shallower. The frames you mention are neither of them suitable for a two-story hive.]

"LOOKS" NOT ALWAYS A SAFE CRITERION.

Friend Root:—Last spring, I ordered of you one imported queen, and received her in due time, with a 2 frame nucleus. She was very small, of a dark color, and did not look very promising; but I can only say of her bees, they are as fine as I have ever seen, being very light in color, and good workers. Anyone wishing an Italian can not be better served, than I have been by you. Six dollars is a big price for one little bug, but I believe brother Root sends no humbugs.

A CHEAP BEE FEEDER; MY PLAN.

Take a piece of ash or maple, and, with a $\frac{1}{4}$ inch bit, bore a number of holes about $\frac{3}{4}$ in. deep, being careful not to bore them through the piece, which should be 1 in. thick, and 1 ft. long, for outside feeding. If inside feeding is required, take a common frame and put a piece in the frame near the top, and bore a hole through the top; or, what is better, cut away the top of the frame, so you can lift up the cover and fill the feeder from the top. This makes a good and cheap feeder, and comes nearest to natural comb, of any thing I can conceive.

J. H. HERMANCE.

Columbus, O., Feb. 16, 1880.

[Thanks. Your feeder is virtually the Simplicity, but, for us, it would be a great deal more work. The idea of cutting away the central part of the top bar, letting the feeder take its place, is quite ingenious, and may be adopted.]

HOW TO DECOY RUNAWAY SWARMS.

I have not seen anything in GLEANINGS yet, that comes up to my experience in regard to saving bees from running off when they swarm. I had a black queen that I kept 7 days. She answered the swarming of 6 colonies. I took her out and introduced a tested queen. I put the black lady in the cage, and gave her some honey. At 9 o'clock in the morning,

I discovered that one of the stands was going to swarm, and I fastened the cage in the fork of a bush. The bees were soon clustered about her. Two swarms were saved in the same way the next day; and soon I thus saved all my bees. My neighbors lost lots of their bees.

J. B. SALYER.

Connersville, Fayette Co., Ind., Feb. 13, 1880.

OATS FOR BEES.

"Good morning, Mr. H."

"Good morning."

"How are your bees getting along? are they all dead?"

"No; but I don't believe they have much honey. Mr. G. was here the other day, and I asked him to come out and look at my bees. He turned down the hives (box hives), and looked at them, and said they had no honey; but, if I would put some oats under the hives where the bees could come down and eat them, they would live on them, and come out in the spring all right."

Now, friend Root, I will not give you any more of the conversation, for I have given you enough, I think, to convince you that bees, as well as horses, can winter on oats. All I hate about it is that I did not know it last fall, and save that sugar and candy.

West Union, Mo., Feb. 8, '80.

O. A. HOAG.

[Neighbor G. was right, at least in part; but, to feed bees oats, your neighbor needs to be told that they must be ground finely, and fed outdoors in the sun. They might thus help a little honey to go a great ways, but I do not think they would entirely take the place of honey, unless they were first taken to the grape sugar factories, and the starch converted into sugar, as they do with Indian corn.]

GRAPE SUGAR CANDY THAT WON'T HARDEN.

I wrote you a postal the other day, about our grape candy. It is all right now. After standing 48 hours, it became hard.

JOHN A. WELLS.

Valparaiso, Ind., Feb. 13, 1880.

BINGHAM'S SMOKERS.

I have used one of Bingham's large smokers the last two years, and like it very well. Half rotten wood burns out too fast, but I have not been able to keep it going with hard wood alone. Use some cloth with it.

C. R. CARLIN.

Shreveport, La., Feb. 9, 1880.

THE NEW ALL-IN-ONE-PIECE SECTION.

Samples of fdn. and sections received. This is the handsomest section I ever saw. Your mode of putting them together is perfect. I did not glue this one, as I wanted it to show; but I think when it is glued it will be like a solid piece of wood.

Greene, N. Y., Feb. 11, 1880.

L. E. ST. JOHN.

AGE OF DRONES.

On page 31, friend Butler does not think my theory a "true one," and gives a reason, but not evidence which admits of no doubts. How "certain" are you, friend B., that none of those drones were reared after the 20th of Oct.? Did you examine thoroughly and often? If not, how can you be "certain" that a succession was not kept up all the while, from a few scattering drone cells? Such has been my experience without an exception; but I do not accept this as "conclusive," because the experience of other close observers may be different. Although I am aware that drone cells on very old dark combs may escape the eyes of the closest observer, I am still willing to concede this much.

G. W. DEMAREE.

Christiansburg, Ky., Feb. 16, 1880.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, MAR. 1, 1880.

Who shall separate us from the love of Christ? shall tribulation, or distress, or persecution, or famine, or nakedness, or peril, or sword?—Rom. viii, 35.

We can use Canada postage stamps, where it is more convenient for our friends to send them.

FRIEND Nellis comes out with his January No. of the *Exchange* greatly improved, through the influence of a bran new press.

OUR friend D. D. Palmer, of New Boston, Ill., has been engaged in exposing the swindles of Spiritualism and has published a little pamphlet in regard to the matter. "By their fruits shall ye know them."

THE papers will have it that "managing bees by electricity" is sense, and not nonsense. The *American Bee Journal* speaks of it as if it might be a "great invention," and even the *American Agriculturist* seems inclined to give it a sort of credence.

HANDLING BEES OFTEN.

OUR friends across the water, some of them at least, seem to have decided that it is not well to handle bees often. How is it, my friends? Do the bees you handle and look at most gather the most honey, or those you seldom disturb?

HONEY WANTED.

THERE is, at present, quite a call for honey, and none to be had, as you will see by our honey column. Now is the time for our southern friends to see who will get the first new honey into market. Get in first with a nice article, and you can have almost any price you want.

THE CHEIROGRAPH.

CONSIDERABLE complaint has been made that the cheirograph, instead of giving 100 impressions, only gives from 20 to 30. This is owing to the ink used, the way in which the writing is done, and the hardness of the pad. If the pad is soft, more of the composition is used at each impression, and therefore it soon wears away. Use less glycerine to the amount of glue, write over the lines twice with very thick ink, and you can get 100 legible copies I think, without doubt. We do not use it in our work, because we have plenty of printing presses.

RACK FOR PRIZE SECTIONS ON THE L. HIVE.

In many of our price lists, I see an engraving of a rack to hold prize sections on the L. hive. This rack not only allows the bees access to the bottom bars of the sections, to gum and propolize them, but it has the sections separated by wide, vacant spaces right over the centre of the brood nest. I can but regard both as most serious blunders. Cover the whole of your section completely, that it may be as

white and clean when handed to consumers, as when it left the saw, and push your sections up close together over the brood nest, leaving spaces, if there must be such, at the ends, and not in the middle.

SYRUP FOR TABLE USE.

MELT together 3 lbs. of coffee A sugar, with 1 lb. of confectioners grape sugar, adding water enough to bring it to the consistency desired, and you have a pure white syrup that will never grain, at a less price per gallon than the brown golden syrups of the groceries. It has no flavor to be sure, but you can flavor it with honey, or maple syrup, and you then have the most beautiful and healthful table syrup that can be procured, and almost any one will prefer it to pure honey. At present, it would cost about 75c per gallon, as thick as the best thick honey.

HONOR TO WHOM HONOR IS DUE.

OUR friend Fahnestock, of Toledo, O., says his neighbor Detweiler exhibited at the Chicago convention a queen cage with double wire cloth, which doubtless suggested to friend Cook the idea, and induced him to order of me a cage made as per his letter on page 496, Dec. No. Although the idea of having a cage made with double wire cloth has before been mentioned in the journals, if our friend exhibited such a cage at the convention, he should certainly have the credit of so doing. I am sure friend Cook had no thought of depriving him of this credit, for we all know how conscientious he is in such matters.

FRIEND Nellis sends us a sample of Peet's combination and introducing cage. It certainly is very ingenious, and in many respects very convenient. In my experiments with a cage to attach to the comb, I used tin or wire cloth, and the bees would often get into the cage in a few hours, by cutting the wax away. As this cage has only wood to come in contact with the comb, it may do better, for the bees seem more inclined to dig out metal as a foreign substance, than wood. The point on which I am sure this plan will fail, is in letting the queen out, and leaving her to be attacked or not, as it happens. We find many colonies that will kill a queen anyway, no matter by what plan she is let out. With such, you must watch and rescue her, or have her killed. If the bees gnaw her out, you can not well do this.

GRAPE SUGAR.

WE have before us three samples that I know are safe for feeding bees, but I can not tell you which will be most profitable to purchase; you must decide it by experiment. The samples mentioned are, our best, refined, confectioners grape sugar, at the prices given in our price list; a cheaper quality, made also at Buffalo, a little darker, at $\frac{1}{2}$ c less; and last, the product of the Davenport factory, where the company has just got under way again in their new buildings, at the following extremely low prices, compared with the Buffalo company: In 50 lb. boxes, here in Medina, $4\frac{1}{4}$ c; 110 lb. boxes, 4c; in barrels of about 375 lbs., $3\frac{3}{4}$ c. If shipped from the Davenport factory, $\frac{1}{2}$ c per lb. less. You see this will bring it down to $3\frac{1}{4}$ c, by the barrel, at the factory. The sugar is of about the same quality they used to furnish us, and is, they say, made especially for feeding bees. Samples of all the grades, mailed for 10 cents.

Our Homes.

We know that we have passed from death unto life, because we love the brethren.—I. John, iii. 14.

I SPOKE to you last month about my class of boys in the Sabbath school. I told you also that it is well to have wants. Now I am going a little further, and tell you it is well to have troubles, or, at least, it is well to be troubled in one sense. I would by no means have you borrow trouble, nor would I have you be troubled in any way that would lead you to useless repining and fault finding; but I would have you troubled in a way that would set you earnestly at work to remedy existing evils all about you, and for which you are more or less responsible. I felt troubled about the boys of my class, and because my teachings seemed to have little or no effect in increasing their faith in the Bible, or in counteracting the prevailing skepticism of our town. Do you not see that it is well to be troubled in this way? Well, I prayed quite earnestly over this subject, but still matters did not improve. These boys seemed more bent on turning every thing into fun, and making light of religious teaching, than before, and I began seriously doubting whether anything could be done for them. I feel ashamed to own it now, but thoughts did begin to come into my mind of blaming the poor boys, and saying if they did not come to Sabbath school to behave themselves, and listen while they were taught, it was no fault of mine, and, for almost the first time in my life, I allowed thoughts to come into my mind of another class. May God forgive me, and if any of those boys should chance to see these words, will they try to forgive me too. The point that I could not easily get around was that there were so many of them, and they seemed all to do about alike. The class kept increasing too; why did they come at all? Was it because they enjoyed the fun of seeing how they could baffle me, and of seeing me talk and work for their salvation? My friend, you may have one or two bad boys in your class, but never a whole class of them that are beyond the reach of the gospel. You may, my brother or sister, have one or two bad neighbors, difficult to get along with, but you are never among a set of people that are all bad. God would not allow it; and whenever you are tempted to think thus, just make up your mind you are the bad neighbor and the rest of them good in comparison. Let the man or woman fear and tremble, who has quarrels with a great many people round about him, or, to go still farther, who finds many about him that are unlovable; especially, if you claim to be a Christian, look out how you allow yourself to get into an uncharitable mood, and speak bitterly of those whom God has thrown around you. Do you love the brethren, such as they are? If not, is it not very likely you have not passed from death unto life? You can be troubled about the sins and faults of your neighbors, but instead of loving them less on this account,

you should love them more; in fact, they need your love all the more, if they are wicked and unconverted. I know my great and grievous fault in this direction, and it has of late been looming up before me like a great mountain. It is true, one may be persecuted for Christ's sake, but I am sure such is not often the case with me. My persecutions come mostly, because of my grievous faults, and because I deserve them, and they are best for my spiritual growth and good. In answer to more earnest and intense prayer for these boys, God showed me where I stood, and that it was outside of the bounds of possibility, that those boys, were *all* beyond hope of being converted. It's my own work, and the class is my appointed field which God has given me. I thought of how much kind encouragement you have all given me in regard to these Home Papers, and then I thought how disappointed you would all be, should you find out the truth, and discover that I was the poorest teacher in that whole school of over 200 pupils. Slowly it began to dawn on my mind that I must take the time and go and see these boys, all of them, individually, and at their homes. I pleaded I had not time, and evaded and put off the duty. Stronger came the still, small voice, speaking finally almost in plain words.

"Mr. Root, you *must* hunt those boys up, and use the power God has given you, to get them out of the attitude they seem tending toward, in regard to the Christian religion. If you can not handle them together, you certainly can, by taking them individually."

I wonder if Jonah felt at all in the same way when God told him to go and preach to the children of Nineveh? I do not know that I ever before felt so much diffidence at taking up any such work, as I did this simple task, and I can only explain it by saying I had been listening so long to Satan, that he had a great deal to say in the matter. The especial thing that kept coming up was, "What will their parents think?" and "It will be a pretty way to get the good will of the boys, by going to their parents and complaining of them."

In vain I prayed that my Savior would go before me and pave my way for the work, as he had done so many times before. It seemed to me as I started out, as if it certainly was a blunder this time, and all I could do was to say, as I have so often said before, "Well, I will go ahead, any way, and if it is a blunder, it will be a blunder for Christ's sake, and He will certainly take care of it."

Do you think it was a blunder my friends? Blunder? To be sure it was not. I had a very pleasant talk with the parents at the first place, and such warm thanks for my solicitude in looking after their boy, that I went away "just happy." Just about the same result followed with the next, and, before I got to the third, the boys found out what was going on, and, to my great surprise, one day, the boy I had first visited came bounding up to me with,—

"Mr. Root, Mr. Root, are you going to Mr. G.'s to-night?"

I told him I intended to go.

"Please may I go too?"

"Why, most certainly, my friend, if you wish to go."

Do you see what a blunder I had made in my lack of faith? I thought the boys would be embarrassed and annoyed, but here was one who wanted to be "talked to" some more. Who can fathom a boy's nature? and who can fathom God's wisdom? A little farther, and the one I had called on at the second visit came bounding through a snow drift, with the same question. Did you ever? I was told afterward, that some of them were on hand at the appointed place before dark. At this, the third visit, so many of the class being present, there was a little danger that the spirit of the Sunday school might rise up; but one of the parents was present, and it had a marked influence. A sister of one of the boys, who is in the Sabbath school, helped me very materially, and nearly all of the boys had a verse learned for our next lesson. When it was time to go home (I was startled to find it was after nine, for I had been so intent on my work that I had forgotten time and place) the idea came into my mind suddenly, whether it would be wisdom to ask so many to kneel with me in prayer. In meeting one of them, I had always closed the talk with prayer. There were so many, and they were so boiling over with suppressed fun. I feared they would not kneel down. I finally decided that if I omitted it, I should feel a little guilty, as I know by past similar experiences, for not having done my work thoroughly and well, and I therefore asked them if they would not all, out of courtesy, unite with us as we knelt and thanked God for our pleasant evening. As the young lady and her father set the example, they all knelt, but the idea seemed to them so funny, that, for a brief time, their suppressed giggling threatened to drown my voice. Even this did me good, for when I began to feel that I was not equal to the occasion, I grasped at once upon the idea that God was able, and God did restore quietness, while he admonished me to make short prayers before so young an audience. With joy in my heart, I dismissed them, and prepared to go home; but imagine how surprised I was, and how I thanked God for his answers to my prayers, when two of them came up to me at once, and made the request that we have a meeting of our own, every week.

"O ye of little faith," I felt like saying to myself as I went home. We have had one Sabbath school since, and Oh, such a different one! God does hear, and help, I keep thinking all the more. The boys have finally arranged that they will have the meetings around from house to house, and all I shall have to do with it, is to come when and where I am invited. Do you not see how like it is to our noon-day service? I am only a passenger, as it were, and they do all the work, and take the whole matter into their own hands. Is it not wonderful?

Commit thy way unto the Lord; trust also in Him, and He shall bring it to pass.—Ps. xxx, vii, 5.

That still small voice came again, and pointed out the course I was to pursue something in this way: "Mr. Root, if those boys

have chosen you to meet with them, you certainly are equal to the task of interesting them for an hour or two every week, and of thus keeping up the work God has so manifestly called on you to do." The second week I gave them some experiments in mechanics ("tricks," I presume some of them call them), lasting an hour, and then wound up with 20 minutes earnest work on the lesson for the next Sabbath. Next week, I am to give them some electrical experiments. They all enjoyed it, I am sure, and I am pretty sure too, that none of them enjoyed being a boy again, so much as your old friend Novice. Said my wife,—

"But will it not be something of a task on your time, to take one whole evening every week?"

Perhaps it will, but the thought of those boys waiting for and expecting me would make it a pleasant task to go 5 miles through the worst of roads or weather, so long as I was leading them in the strait and narrow path to the mansions above.

Now it is not only in the matter of that class that God seems guiding and directing, but through these Home Papers there seems to be coming and developing a new field. The boys themselves are going to do the greater part of that work, and I do not know, my friends, but that it is you who are going to do the greater part of this work. The friend who writes below gave me my opening text:

"By this ye may know that ye have passed from death unto life, because ye love the brethren."

I have just finished reading your sermon in Feb. No., and must confess my heart burned within me, while you were talking to Mary. You have told her the truth. I am glad to find a man of God, and one who has faith. I know you are a man of like passions with myself, and love to meet hearts which beat in unison with your own. I, too, have trusted God in faith, and have had miraculous answers to prayer, but faith and works go together; our lives must square with God's word. "As your faith is, so shall it be with you." If we feel God's smiles, we dare ask him for great things. Bro. Root, I think your home readings are like sparks from the electric machine; they stir the dormant powers of the Christian reader. You will please excuse my poor hand-writing; I think it is nearly as bad as Horace Greeley's used to be, but, if you can make it out, be assured it comes from an honest heart. I wonder how you find time to hold meetings, and write for the GLEANINGS, and attend to all the minutiae of your extensive business, and yet hold your temper. I am a man in business, and in dealing with the multitude, my inward graces are tried. Bro. Root, you have my prayers and sympathy, and I bid you "God speed."

J. B. GOEWY.

Lansingburgh, N. Y., Feb. 3, 1880.

Never mind the writing, brother G. Fine penmanship is an excellent thing, but the spirit that shines through your words is of far greater importance in God's sight. I thank you for that beautiful text, for it has seemed to me since you sent it, one of the brightest of the many shining ones to be found in God's sacred word.

Here is another letter that makes my heart rejoice much as it did when the boys asked to have a little meeting every week:

I am a skeptic, because I cannot help it, but want you to keep those Home Papers up. Don't stop. Oh that we could all be true to ourselves, true to one another, true to every thing, and drive away all bitter strife, and live to love one another more, and all work in our peculiar ways, harmoniously, to make the world better and wiser! J. SYKES WILSON.

Sterling, Ill., Feb. 3, 1880.

Go on, brother, for you are near to the kingdom of Heaven. I can not help feeling, in fact, something almost tells me, that very soon you will write, "I am a follower of Christ, because I can not help it." You have got the main and the important point. Hold on to that, and let the skepticism fall away of itself, as it surely will do if let alone. "Heaven and earth may pass away, but my words shall not pass away."

Two or three years ago, I received a letter from a sister who seemed somewhat discouraged in trying to live a Christian life; the letter was by no means as despondent as the one from "M." in last number, but something like this idea was given: she said she had been for nine years trying to live as, in her opinion, a Christian should, but that, after looking back, she could hardly see that she had made any progress at all. I tried to encourage her, and have always watched carefully her letters since, praying that God might help her. It may be well to say that, in the same letter, she gave me a severe but kind reproof for some of my failings, which I have never forgotten. One of her admonitions was, to beware of the love of approbation. Now had she not herself fought this ground over, even for nine years, she could by no means have had the power to reach me, as she did. Bear this in mind, while I go on.

After the February No. had gone out, the first letter I received in regard to it was from this sister. She wanted the address of "M." I involuntarily thanked God as it dawned upon me, that she, above all others, was the one to help "M." God had, in truth, sent her. By some means, the answer was delayed one mail, and then came another letter upbraiding me for being so heartless, as to publish poor "M.'s" confidential letter, just as if I had done so without permission from "M." herself. I was a little vexed, and asked my friend if uncharitableness to her friends was one of her besetting sins. Here is her reply:

When I wrote that letter I felt like saying a good deal more. Now I am glad I did not. I thought you judged of the feelings of others by your own, and used their communications as you would the experiences of your own life. I misjudged, and I made you feel vexed for a few minutes; I wish I had not. As I can not truthfully say "I am very sorry," etc., etc., how will this do for an apology? I enjoyed your "talking back." There was a ring that was genuine in the words. Yes; uncharitableness is one of them, and you cannot mention any thing else that isn't another.

Now, my friends, while you read the rest of this letter, please bear in mind that it comes from one who said she had tried nine years to overcome her faults, and had made little or no progress. Unless I am mistaken,

the good which these lines alone will do the readers of GLEANINGS will be worth more than the labor accomplished in nine years of average human life. It will do to read over and over again.

I am almost sorry I wrote to "M.," but such a cry from the depths made me feel as if I must try to comfort her. Perhaps it was not best. I think no one can help her permanently. I believe, when one is willing to sacrifice all they naturally hold to most strongly, for the sake of a faith in God, and a consciousness of His changeless love,—when they have suffered until they turn towards Him as a tired, troubled child goes to its mother, then, I believe, every one receives the help he needs, in this and in every subsequent extremity; that is, when they will yield, and come into right conditions. And then they stand on new ground. They know for themselves, and the work of reformation begins at the centre,—the work of unmaking and building themselves over, that so few professors know any thing about. When "M." is ready to receive in meekness, whatever is best for her, God will lift her up. All this suffering may be necessary. Having written, I can only leave the matter as it now stands. A.

I presume you will all be interested in hearing from "W. O." again. God has answered, as I knew he would, but I did not know how it would come about. He has had such a flood of orders for ink, that he has been greatly distressed to get bottles, and we have had to ask God to send the bottles, when money in advance seemed to have no effect in getting them. As the price of bottles has advanced greatly, he has been worrying for fear you would not understand the change in prices. I told him to make out a list of what he thought right, and we would pay it cheerfully. You will find his advertisement in this number. Just listen to a few extracts from recent letters:

You have certainly done towards and for me, as a stranger, what I have never experienced from any other person. God in his good providence, in answer to your prayers and kind Christian help, may open a door of material aid, and I cannot find words to express my gratitude for such unselfish Christian sympathy. It is one of the green spots in this selfish world.

"Tut, tut!" Friend O., the world is not selfish. I have found it a very kind world of late years, and do you not see how very kind it has been to you in the past few weeks? When we get where God intends we should be, we shall find it a pleasant world, and full of pleasant, kind people.

I think more of the world and the people in it, since forming your acquaintance. I have sought aid and help from those who could have helped me, and been blessed in so doing, but all they said was, "Be ye fed and clothed."

There you go again, friend O. If you do not stop finding fault with your fellow men, you will go back into darkness again sure. I begin to fear a want of charity is one of your besetting sins too, as well as mine and sister "A's." Now look out.

I know there is industry, vigilance, care and economy to be well guarded on my part, and may God make, and keep me an humble, faithful laborer in his vineyard. I accept with all cheerfulness the

proposition, that by the "sweat of my face I shall eat bread." I find inquiries about inks from several places, and may it not be as I pray, that through your Christian influence and assistance help shall come from some other quarter?

I could not send the materials to make the inks, as liquids are required for the manufacturing of some of them, and others are not combined until they are brought into the liquid form. If you will send me a pad, I will do my best to supply you with a suitable ink for the cheirograph.

I will be very willing that you should charge me for an advertisement, and will thank you besides.

Columbus, Ohio.

WM. OLDROYD.

I have always been deeply interested in cases of insanity, and it has always seemed to me, since my conversion, that Christ's words should heal such cases now, just as they did in olden time. From this you may know why my mind fixes on your letters when they touch on misfortunes of this nature. After having spoken of our temperance work some time ago, the following came:

I wanted to commence GLEANINGS in Jan., but my wife was taken crazy and still remains so, and I had not the money to spare; so my daughter has given me a dollar for the journal, saying, "Reading it is all the comfort you take." Keep on with your home talk; it will hurt no one, and, as to rum, Oh, how I wish that I was there to help you fight it! The rum-seller is afraid of me. I have a son (an only one) that has almost killed us all, by getting drunk. It made his mother crazy, and almost kills me. I have to stay at home the most of the time, to watch my wife, but I worked out and earned \$1.00, some 3 weeks ago, and sent it to you. Now I should like to know what has become of it.

March 5, 1879.

G. B.

You see, my friends, intemperance robbed this man of his only son, made his wife insane, and, by leading astray the other boy that robbed our mails, caused him to lose his hard earned dollar, and placed the boy where he now is, in the penitentiary. I often thought of this man, and you can imagine how I rejoiced when I received the following letter but a few days ago:

I cannot resist the temptation to write you. My husband has taken GLEANINGS quite awhile, and I used to say, "Now G., your Bible has come, and you will be happy;" but I used to read some parts with equal interest, especially your Home Papers, and your unbounded faith in answer to prayer was such a mystery to me. If it was not for that, I should not be writing to you to-day. I crave the prayers of you and your wife for God to help me in some way. Two years ago, I was confined to my bed quite awhile, and my head felt so bad I did not know what to do, but thought I should be all right, when I could get around again; but Oh! God help me! I found that my mind was all unhinged. It seems as if I had shed barrels of tears and almost prayed without ceasing for God to give me back my reason, or take me to himself.

Neither my husband nor myself are Christians; we have many faults, but have tried very hard to do as we would be done by. I am very, very wicked, and it seems as if God had forgotten me. I have

such a terrible headache that it makes me insane, and I have been so wicked as to wish for death, and try to kill myself. God forgive me. It seemed as if I could endure this living death no longer. My constant prayer is that I may never be sent to an asylum; I feel sure it would make a raving maniac of me, to send me away from my husband. He is poor, but he says I shall never go while he lives. My head has never been right one hour since I was taken sick, but when I am the worst, I don't harm anyone; only it is so hard to bear with my tears, and appeals for help. No medicine does me any good. My husband has done every thing in that line that he could. Now I beg your pardon for asking your prayers, and advice. Oh! say something to comfort us in this our terrible affliction.

Mrs. G. B.

February 2, 1880.

May God give me wisdom to guide you, my suffering sister, as well as the hosts of friends that seem to be rising up to help in this work of helping each other. In "W. O.'s" case, nothing more was needed than for God to influence his fellow men a little in his behalf. You have all seen how our prayers for him have been answered. Mr. Müller says in his book, that obtaining money in answer to prayer was comparatively an easy matter, compared with some other things. Not that any thing is hard with God, but that it is hard for us to have the necessary faith that our prayers shall be answered. In the case of our friend "M.," little more was necessary than that she should go to work for others. God has raised up kind friends to point out to her her errors, and I am sure that, with the strong, earnest help from "A.," she soon will be rejoicing in a new life, if she is not already doing so. Do you not see that the case of our sister whose reason is shaken on its throne, and who realizes it, is quite a different thing? Can God, or will God, hear and answer such appeals? He may not see fit to remove that awful suffering just yet, but he will give peace, and he will give strength to bear it, if not with cheerfulness, at least with a resignation that will enable her to say "Thy will be done." If she will earnestly and thoroughly take up her crosses, whatever they may be, I feel just as sure that light will come to her, as I did in the case of "W. O." On receiving her letter, I wrote to her as follows:

May God help you, my suffering sister. I believe it was he who moved you to write me, and I pray and trust that deliverance may be at hand for you, if you will go to your minister and tell him your troubles and distresses, as you have me. Go among Christian people too, when you are able, and get them to pray for you, and I feel sure relief will come. God works through his humble, faithful, consistent followers, and you can certainly find some such near you.

For the sake of the dear Savior who died for you, do not give up and do not despair. Trust him; believe he has some purpose in thus afflicting you, and that it is your duty to show the world that you can be patient and resigned for his sake. Read, or have your husband read to you, about him that was born blind. Pray to be delivered from the temptations you have mentioned, and bear in mind, O my friend, that God is *always* near you, and that you are *before him* when you are tempted to do wicked things.

You have had, and will have, our prayers, and, as I know there are many faithful ones among our readers, I pray you to let me present your case to them. God seems to be moving us to pray for each other. Be patient, my friend, and trust your Father in Heaven, and if it be possible for you, I would strongly urge you to join yourself to the nearest body of Christian people. May God bless you is our prayer.

Of course, we did not neglect to pray for her. Her letter is dated, as you will see, on the 2d. I did not get time to send mine to her until the 9th. Well, her husband wrote on the 8th, one day before my letter was sent, that she was better. Here is his letter:

Mr. Root, I wish that I could have a good talk with you. I think my wife is getting better. It is now nearly 3 years since she was taken sick, and it takes all that I can earn to get along and live. I had some little property when she was taken sick, but have lost most of it. I had 40 swarms of bees, but they were attached and sold. The law here gives a man 3 swarms. So you see that I have to begin again anew; but I do not care for all of that, if my wife can have her reason again. I think, if I could manage to get one of your chaff hives for a pattern, I could make and sell a good many in this section.

February 8, 1880.

G. B.

God does not have to wait for mails or telegrams, as I told you last month. Below is her reply to my letter:

Friend Root: A thousand thanks for your kind words and advice. I pray daily and hourly, that I may feel your *faith*, and *trust* in *God*. I keep praying, "O God, give me patience to bear this terrible affliction." I feel as if the earnest prayers of yourself and friends could not but do me good, with God's help. My head feels so very bad to-day, that it is a terrible effort for me to keep still long enough to write a few lines, but, as I told you before, I cannot resist the impulse, and hope it may result in doing me good. I do feel very grateful for your kindness, and advice, and I will surely try the best I can to do right. I deeply feel as if I had done but very little good in the world, and a great deal of harm by not trying harder to make others happy. I was thoughtless and selfish, and feel as if I had lived in vain, and that God could never forgive me. I do, and will, talk with my Christian friends, but I feel as if I should be only a stumbling block to others, if I should try to join any church at present. Pray for my very kind husband, that he may continue patient and not faint by the way. Please continue your petitions in our behalf. I can never thank you enough for your kindness to one all unworthy. I know you have made many sad and sorrowful hearts to sing for joy, by your kind words and actions.

God bless all your efforts in behalf of the weary and heavy laden. Accept the best wishes of your sincere and ever grateful friends. G. and H. B.

Feb. 12, 1880.

Boys, can we not help a little in a case like this? Shall these unfortunate friends lose faith in God and humanity, to add to their other trials? I have sent friend B. a sample chaff and Simplicity hive to work from, that he may find it a little easier to catch up, and I will give his address to any of you that may wish it. His wife prefers I should give only her initials.

FOR OUR HOMES.

Mr. Young says, in *Our Homes* for Jan., "Show how a being of infinite mercy can torment a single human being eternally." Now, we do not presume for a moment to think but that Mr. Young believes that he is a free man to act as he pleases, to do as he likes as to choosing or refusing salvation as it is offered in the Bible. To this, I think, all will agree. When we read II. Peter, xi. 4, and Jude, 6, we see how two influencing powers came to be in the earth—the one to draw man down to the depths of wickedness, and the other to lead him to do that which is good, and, eventually, if he will listen to the teachings of the Holy Spirit, to lead him up to God. Our first parents were created pure and holy. Life and death were set before them, God saying to them, So long as you *choose* to be good, and continue in the position where I have placed you, you shall be for ever good and happy; but if you choose to do evil, dying thou shalt die. They yielded, of their own free will, to the influence of the evil power, and thus death, sin, and misery passed upon all mankind. It needs no argument to prove this, for we see conclusive evidence of it every day of our lives. Did a being of infinite mercy do this? No; man did it of his own free will, and, as a consequence, brought misery, eternal death, and punishment upon himself. Now, God or Satan must have the power, or ascendancy; and, as God had the ascendancy in the two passages quoted above, so he has now. He reserves the right to hold that power, and, if man sees fit to trample all the means of grace under his feet, and will not be good, but delights to do evil, and that continually, God will never be so unmerciful to man as to take away his free will and shut him up in heaven (against his will), which would be a far greater torment than going to eternal punishment with those of his own class. That same evil that was in the fallen angels is in all men not having their natures changed through Christ, and wicked man would, if he could, tear God from his throne and trample him under foot, that they might be still more wicked and miserable. In this condition we every one of us find ourselves, and we realize it at some time during our lives. Now, after we had brought all of this on ourselves, and were at enmity against our heavenly Father, God so loved the children he had created, that he says, I will give my Son to suffer for all this sin and misery which my sinful children would suffer continuing in wickedness throughout eternity, so that, if they will accept of Christ's suffering, they need suffer no more, but may be good and pure, and enjoy being with me throughout eternity. This is all I can do for them; and, if they will not accept of this, they must go on in sin, and suffer its consequences, away from my presence eternally. Christ came, as it is written, "Lo, I come to do thy will, O God," and suffered, the just for the unjust. Friend Young, will you and I be so foolish as to reject Christ by trying to climb up to heaven some other way, thereby neglecting the only chance there is of becoming good, and enjoying that which is good, throughout eternity? I trust not. In any case, friend Y., don't let us try to charge on God that which we have brought on ourselves. There is one thing which I firmly believe: if we wish to be progressing in goodness and happiness throughout eternity, we must have God's presence in our hearts here; for no where are we assured that we shall desire any change in our condition after we pass from this life. I am willing to accept Jesus Christ as my *Savior*, realizing that it is alone through the atonement and sufferings of Christ that I am kept from eternal death. May God help us all to choose Christ, and be happy for time and eternity, rather than to have our wills so strong that we shall bring upon ourselves eternal destruction.

Borodino, N. Y.

G. M. DOOLITTLE.

OUR "COUNTER STORE."

You little know, my friends, what pleasure I have taken in collecting these goods for you, more especially those on the 5c counter, and I have looked forward many a time to handing them over to you, and to the pleasure I should take in hearing your exclamations of surprise, at so good an article for such an insignificant sum of money.

USEFUL ARTICLES THAT CAN BE SOLD FOR FIVE CENTS EACH.

TERMS OF PAYMENT—Strictly Cash With Order.

All Prices Subject to Change without Notice

Postage on each		Price of 10	Price of 100
2	Awls, Scratch, Wood Handle.....	45	4 00
2	Awls, All Metal Handle.....	35	3 00
3	Awls, Brad, Assorted Sizes.....	45	4 00
See cuts of above Three, on page 100.			
	Baskets, $\frac{1}{8}$ bushel.....	40	3 75
	" $\frac{1}{4}$ ".....	45	4 25
	" $\frac{1}{2}$ ".....	50	4 75

Just think of it! a Half Bushel Market Basket for five cents.

- 1 | Brushes, Paint, Paste, or Sash..... | 35 | 3 00



Read what a customer says of these: "Your Five Cent Brush is as good as one I paid 50c for."
ISAAC B. RUNFORD.

Bakersfield, Kern Co., Cal.

4	Brooms, Whisk.....	45	4 25
Nice to brush the sawdust off your clothes; a very good brush broom in fact, for 5c.			
12	Coal Shovels, Wrought Iron.....	48	4 75
5	Cups, Tin, 1 Pint.....	40	3 50
6	Dippers, Tin.....	45	4 00
A real Serviceable Dipper, and just the thing for getting a cool drink out of the spring, or "old oaken bucket."			
2	Dish Covers, Blue Wire Cloth.....	45	4 40
Just the thing for Shipping Queen and $\frac{1}{2}$ lb. Bees.			
9	Dust Pans.....	45	4 25
Tip-top for keeping the Floor to your Shop Clean, and just the nicest Present for your Little Girls.			
3	Drawer Pulls.....	25	2 25
13	Foot Scrapers.....	45	4 25
Splendid (for your wife's carpet) during this muddy weather.			
2	Funnels, $\frac{1}{2}$ Pint.....	45	4 25
5	Garden Trowels.....	45	4 25
Would be cheap at 4 Times the Price.			
1	Gimlets, All Steel.....	40	3 50
2	Glass Cutters.....	48	4 75
Just such as have been selling from 25 to 50c each.			
Ink, "W. O.'s," any Color, in Large 2 oz. Bottles;			
For Wholesale Prices, see page 140.			
3	Kitchen Knives.....	35	3 00
These are rather poor, but I hope to get some better ones.			
2	Knives and Forks for Table Use (a Knife and a Fork Are Two).....	45	4 00
Good Steel, but rather Plainly Made.			
1	Knives, Pocket, 1 Blade, for Children.....	45	4 25
Not very good, nor very handsome.			
3	Magnets, Horse Shoe.....	48	4 50
A beautiful Scientific Toy, formerly sold as high as 50c. These are Nicely Finished, and Very Powerful; be careful Not to let them Touch WATCHES.			
5	Mallets, Wood.....	45	4 25
Just the nicest thing to Drive Sections Together.			
3	Match Boxes.....	45	4 25
5	Marking Gauges.....	45	4 25
A very pretty tool for the money.			

5	Molasses Cups, Tin, Nice for Honey...	48	4 75
	Mucilage and Brush.....		
Exactly like those that you pay 25c for. I do not know how it is possible for them to be made so low. Three dozen are packed in a box, and \$1.65 pays for box and all.			
4	Nest Eggs.....	40	3 50
2	Oilers, Zinc, Neat, Pretty, and Just Right to Keep All the "Machinery" Well Oiled.....	48	4 50
1	Pencils, Lead, The Kind I Prefer (Am. Phonographic).....	45	4 00
2	Rules, 1 Foot, for School Children....	45	4 00
See page 100.			
2	Scissors. See page 160.....	45	4 25
3	Scoops, Tin, for Getting Honey out of a Barrel.....	45	4 00
2	Screw-drivers, Sewing Machine, Neat, Wood Handle.....	25	2 00
3	Screw-drivers, Metal Handle.....	45	4 00
See page 29, price list.			
0	Seeds, per Package.....	35	3 00
Almost any Kind.			
5	Soap, Good, and Good Sized Cakes....	40	3 75
2	Spoons, Table, Tinned Iron.....	38	3 50
1	" Tea, " (Two for 5c.)...	20	1 75
3	Stands, Silvered Wire, for Hot Dishes	45	4 00
6	Stove Polish, Dixon's Best.....	35	3 00
5	Tin Plates, for Honey, Set of 3, Assorted.....	40	3 50
2	Tacks, Tinned, 3 Sizes of Papers.....	35	3 00
6	Tack Hammer, Coppered Iron Handle	40	3 50
4	" " Wood Handles.....	35	3 00
5	Tin Pails, 1 Pint.....	45	4 25
Cover and all, and just right for 1½ lb. honey.			
6	Tin Wash Basins, 8 inch.....	45	4 25
If a Bee keeper don't need one, I don't know who does, and these are so Neat, Pretty, and convenient, I verily believe I should sell 4000 of them to-day, if I could just pass a lot of them around among you. Only just 5c. Just think of it!			
1	Tooth Brushes.....	45	4 25
Neat, and Excellent, but rather small.			
1	Views for Stereoscopes, from all Countries of the World.....	45	4 25
2	Wax Ball, for Work Box, in Shape of Egg, Pear, Plum, etc.....	48	4 75
	Whet-stones, Small.....	45	4 25
	Wire Nails, per Paper.....	35	3 00
1	Yard-stick.....	42	4 00
Graduated and numbered as nice as a Pocket rule.			

USEFUL ARTICLES

THAT CAN BE SOLD FOR

TEN CENTS EACH.

2	Awls, Scratch, Tempered Steel, Iron Handle. See page 100.....	75	7 00
5	Balances, Spring, 24lb., Accurate....	90	8 75
See page 100.			
8	Brooms, Whisk, Wood Handles....	85	8 00
5	Butcher Knives, Steel and Temper Best quality.....	90	8 75
3	Chamois Skins for Cleaning Cutl'y, &c.....	85	8 00
5	Chisels with Handles.....	80	7 75
8	Brooms, Hearth.....	90	8 50
5	Brushes, Clothes, an astonishingly good Brush for a dime.	85	8 00
6	" Paint.....	75	7 00
2	" Whitewash.....	85	8 00
10	Dust Pans, Japanned.....	85	8 00
2	Envelopes, Bunch of 25, such as we use	75	6 00
1	Files for Cross Cut Saws and Hand Saws.....	70	6 00
1	" Double-Ender, see page 102.....	95	9 25
11	Foot Scrapers.....	85	8 00
2	Fruit Knives, White Metal Handle, Steel Blade, all Nickel Plated, would have been considered years ago very reasonable at 50c.....	98	9 50
5	Funnels, Quart.....	85	8 00
8	Garden Trowels, Steel.....	90	8 75
2	Glass Cutter, with Knife Sharpener and Can Opener.....	95	9 00
1	Glue, Peter Cooper's, Liquid with Brush.....	90	8 00
4	Hammers Small for Nails.....	65	6 00
5	" Magnetic.....	80	8 50
16	" Full Size.....	65	6 00
8	Hatchets, Bronzed, Geo. Washington	90	8 50
10	Knife Trays.....	98	9 50

8	Lunch Box, Tin, Japanned.....	95	9 25
10	Mallets, Wood.....	85	8 00
10	Molasses Cups, Japanned, Nice for Honey.....	95	9 00
5	Oilers, Zinc, Spring Bottom.....	85	8 00
	Pails, ½ size, Painted, 2 Hoops.....	95	9 00
4	Pocket Levels, to be Put on a Square.....	85	8 00
2	Knives, 1 Blade, American, Good.....	95	9 00
11	Potato Masher, Large.....	55	5 00
6	Quart Measure, Tin.....	95	9 00
24	Rolling Pins, Revolving Handle.....	75	7 00
1	Rule, 1 Foot, Box-wood, Pocket.....	95	9 00
2	Scissors.....	75	7 00
10	Scopps, Tin.....	75	7 00
2	Screw Drivers Wood Handles, Strong and Nice, 7½ inches Long.....	90	8 50
4	Shears, 7 inches.....	85	8 00
	Seives, Wood Frame, Wire, Round.....	95	9 00
	Soap, Best Kind I know of.....	65	6 00
3	Soap Stand, Silvered Wire.....	90	8 50
	Spring Balance, see Balance.....		
11	Steak Pounders.....	65	6 00
3	Steels for Sharpening Knives.....	85	8 00
5	Thermometers.....	97	9 50
	Almost, if not quite, equal to any.....		
5	Tin pail, with Cover, 1 Pint.....	97	9 50
6	no 1 Quart.....	97	9 50
7	Tin Pans, Plain or Milk, 3 qt.....	90	8 50
1	Tooth Brushes, Good.....	85	8 00
10	Twine, Strong Flax, ½ lb. Balls.....	95	9 00
10	Waiters Plain.....	95	9 00
6	Wash Basins, 10 inch.....	95	9 00
	Whet stones.....	85	8 00

USEFUL ARTICLES

THAT CAN BE SOLD FOR

Twenty-Five Cents.

8	Bell, Dinner, Brass.....	2 10	20 00
	Braces, Carpenters.....	2 10	20 00
2	Caliper Rule, See page 100.....	2 25	22 00
	Coal Shovels.....	1 40	12 30
	Compasses, Carpenters.....	2 10	20 00
	Dinner Bells.....	2 00	18 00
	Dinner Pails.....	2 45	24 00
22	Hammers, Adze E., Polished, Carpenters, Excellent for the Money.....	1 50	14 00
8	Hammers, Metal Handle inlaid with Walnut.....	1 60	15 00
	Hatchets, Painted Red.....	2 10	20 00
	Honey, Raspberry or Clover, in pint Tin Pails, with Covers.....	2 50	25 00
0	Knives, 2 Blades, Fine Quality, Am. Lamps, Brass, Night.....	1 90	18 00
	Lantern and Night Lamp Combined, Small, but very pretty and useful.....	2 25	22 00
	Oil Cans, 1 Quart.....	1 60	15 00
	2.....	1 90	18 00
3	Paper Weights, Glass, Very Pretty.....	1 80	17 00
0	Planes, All Metal.....	1 60	15 00
2	Pliers, Flat Nose.....	1 60	15 00
2	Round Nose.....	1 90	18 00
2	Rules, 2 Foot, Pocket, Box-wood.... (each 15c).....	1 25	12 00
2	Scissors, Fine Steel.....	2 10	20 00
7	Screw Drivers, 1 Foot long, Fine, Wood Handles.....	1 90	18 00
6	Screw Drivers, All Metal, Hand Forged.....	1 90	18 00
11	Seives, Metal Rim.....	2 25	22 00
6	Shears, Nickle Plated.....	2 00	19 00
10	Signs to Be Hung in Door Yard, in Stock 3 Kinds, "Honey for Sale," "Bees and Queens for Sale" and "This Property for Sale".....	2 00	18 00
1	Silver Thimbles, Pure Coin.....	2 30	22 50
0	Thermometers, Best.....	1 50	14 00
10	Tin Pails, 2 Quart Japanned and Lettered.....	2 00	18 00
	Tin Pails, 4 Quart Plain.....	2 00	18 00
	Wrench, Coe's, Celeb'd Adjustable.....	2 40	23 00

USEFUL ARTICLES

THAT CAN BE SOLD FOR

FIFTY CENTS.

	Balances, Spring, With Dish, 24lb.....	4 00	35 00
	Braces, Carpenters, with Pat. Grip.....	4 65	43 00
3	Caliper Rule, see page 100.....	4 25	40 00
26	Cheirograph, Complete, Ink Pad, etc. See page 10, Jan. GL.....	4 50	40 00

11	Hammer, Fine Steel, Finely Finished, although rather small, it is the very best Hammer that can be bought.....	4 25	40 00
16	Hand Saws, 18 inch.....	4 00	37 50
	Very Neat, Made of Fine steel; My wife says after using one, she would rather do without almost anything else in the house.....		
	Hatchets, Good Steel.....	4 00	35 00
23	Planes, All Metal, Full Size.....	4 25	40 00
	Lanterns.....	4 50	44 00
10	Measuring Tapes, 50 Feet.....	4 25	40 00
5	Magnifiers, 2 Lenses, on 3 brass feet.....	4 50	42 50
10	Pruning Shears.....	4 50	44 00
16	Saws, Hand, 18 in.....	4 00	37 50
10	Shears, Fine Steel.....	4 00	38 00
	Shovels, for Boys.....	4 00	38 00
	" Men.....	4 50	44 00
26	Vises, Iron.....	4 75	45 00
	To screw on a Table or bench, Very handy.....		

ITALIAN BEES & QUEENS!

Send for Price List of full Colonies, Nuclei, Queens, Bee Hives, Comb Fdn., and Bee Keeper's Supplies generally. Satisfaction guaranteed.

3 A. F. STAUFFER, Sterling, Whiteside Co., Ill.

100 POUNDS OF BEES WANTED!

State race, when you can deliver, price per pound, and quantity you wish to furnish.

3-4d T. L. VON DORN, Omaha, Nebraska.

SENT FREE--My Price List of Italian

Bees, Queens, 4 frame Nuclei, and Apiarian Supplies for 1880. Address,

3d H. H. BROWN, Light Street, Col. Co., Pa.

THE BUELL HIVE!

Having enlarged my facilities for the manuf'g of Bee Hives and Section Boxes, I shall be able the present season to furnish the trade with better goods and for less money than any house in the West. Please send for Price List.

3d S. D. BUELL, Union City, Mich.

BEES FOR SALE IN APRIL!

Good, healthy swarms of Italian Bees, at \$6.00 each, in good, painted, 8 frame hives. Inside size of frames, 9½x17. Delivered on board of the cars, in good shipping order. ALBERT POTTER,

3-4d Eureka, Wis. Co., Wis.

WANTED

200 frames of w. comb, standard L. size. JAMES SHORE, 3 Germantown, Pa.

BEES FOR 1880.

We will furnish Full Colonies, Nuclei, and Queens CHEAP. Satisfaction guaranteed. For circulars, address

3d S. D. McLEAN & SON, Culleoka, Maury Co., Tenn.

WANTED

A place to work in an Apiary. Have experience in handling bees, raising queens or honey. Best of references. Correspondence solicited. Address,

3 C. SHERRICK, Mt. Zion, Macon Co., Ill.

Foundation Machines,

MANUFACTURED BY

JOHN BOURGMEYER,

Fond du Lac, Wis.

Send for Circular and Samples.

1-3d

STANDARD POULTRY & ITALIAN BEES!

P. Rocks, & L. Brahmas Exclusively.

Fowls { \$5.00 per pair } Eggs { \$2.00 per 13 }

{ 7.00 " trio } { 3.50 " 26 }

ITALIAN BEES IN SIMPLICITY AND CHAFF HIVES.

Stock first class and satisfaction guaranteed.

3-5 N. H. ALLEN, Kirkwood, St. Louis Co., Mo.

Cash for Beeswax!

28 cents cash paid for nice, clean wax delivered here, at Penn'a R. R. Depot. Write how much you have.

T. F. WITTMAN, 218 N. 6th St., Camden, N. J.

"W. O.'S" INK.

In 2 oz. bottles, black; violet, or blue, in $\frac{1}{4}$ gross boxes, per gross.....\$4 00

In quantities of 5 or more gross, 20 per cent off.

In Pint Bottles, per doz.....\$3 00

In Quart " " 6 00

In Gallon Jugs " " 12 00

Green and Red ink are necessarily more expensive, and the price will therefore be *one half more*.

Liquid Bluing, in 6 oz. bottles, per doz..... 50
gross.....\$5 40

I will send $\frac{1}{4}$ gross, 2 oz. inks, assorted colors, black, blue, violet, and one bottle each of green and red, as a trial order for \$1 00.

WM. OLDROYD, Columbus, Ohio.

P. S. by Notice.—If it is more convenient, where you are ordering goods of me, I will try to fill small orders at the above prices.

Now, boys, we can all have good, plain ink, if we can not have good writing, and we can help W. O. out of trouble. The colored inks are very pretty for a postscript, or for any passage in a letter to which you wish to call particular attention.

P. S., No. 2.—Why, just think of it! we can sell all of the bottles, red and green too, on the 5c counter, if we choose; and even the bottles of bluing, for *only five cents*, if the express or freight charges are not too "awful" much.

IMPROVED

Langstroth Hives.

Supplies for the Apiary. Comb Foundation a specialty. Being able to procure lumber cheap, I can furnish Hives and Sections very cheap. Send for a circular.

A. D. BENHAM,

Olivet, Eaton Co., Mich.

A NEW SHOP, BUT OLD HANDS.

James Fornbrook & Co. have just fitted up a new Shop for the manufacture of Bee Hives, Honey Sections, etc. Material for the Standard Langstroth Hive, Cheaper than the cheapest. We will make a specialty of the "Boss" one-piece Sections, heretofore called the Lewis Section, this being our own invention. Send for Circular and Price List.

JAMES FORNBROOK & CO.,

Watertown, Wis.

1tfm

SEND FOR PRICES OF

Langstroth Simplicity Hives, SECTIONS, FRAMES, AND

COMB FOUNDATION,

3 MANUFACTURED BY

MERRIAM & FALCONER, Jamestown, N.Y.

THIRTY ACRES IN BERRY PLANTATIONS.

Mammoth Cluster, and Doodittle Improved, are the most profitable Raspberries grown, and give early and abundant feed to my bees; price per 1000, \$4.00. Philadelphia Red, \$10. per 1000; \$1.25 per 100. Concord grape cuttings, \$1.50 per 1000. Wilson strawberry, \$3.00 per 1000. Red Dutch Currants, 2 year, extra fine, \$3.00 per hundred.

Address CHAS. E. FELL.

3-4d Normal Nurseries, Bloomington, Ill.

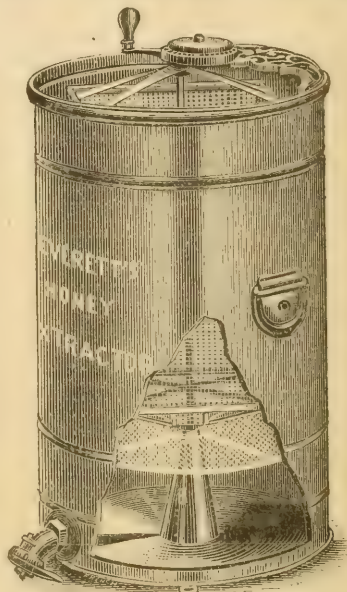
HORSE

Send 25 cents in stamps or currency for a new HORSE BOOK. It treats all diseases, has 35 fine engravings showing positions assumed by sick horses, a table of doses, a large collection of VALUABLE RECIPES, rules for telling the age of a horse, with an engraving showing teeth of each year, and a large amount of other valuable horse information. Dr. Wm. H. Hall says, "I have bought books that I paid \$5 and \$10 for which I do not like as well as I do yours." SEND FOR A CIRCULAR. AGENTS WANTED. B. J. Kendall, M. D., Enosburgh Falls, Vt.

For sale also at this office.—A. I. ROOT.

9-9

EVERETT BRO'S COLUMN.

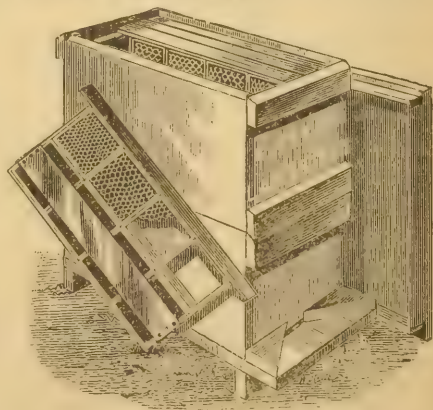


Having lost, by the burning of our residence, Jan. 31st, 1880, our entire list of names, as well as correspondence, accounts, &c., we are unable to send out our new circulars for 1880; therefore we ask one and all to send us their names and addresses.

EVERETT'S HONEY EXTRACTOR

has been before the public, until it needs no comment; but we desire to call especial attention to

EVERETT'S LANGSTROTH HIVE.



Though advertised but a single season, it has been in general use for years in our vicinity, with our best apiarists. Our sales the past season were flattering, and, anticipating large sales in the coming season, we shall continue the manufacture of the Everett Langstroth exclusively; and, notwithstanding the advance in price of all kinds of material, we shall adopt our very low prices of 1879, for this season. Our frames, and inside dimensions of hives are the same as the standard Langstroth hive, as made by Novice and others. Send for Circular.

3 Address EWEERTT BROS., Toledo, O.

RUBBER STAMPS

DATING, ADDRESSING, BUSINESS,
LETTER HEADS, ETC.



No. 1.



No. 3.

Address only, like No. 1, \$1.50; with business card, like No. 2, \$2.00; with movable months and figures for dating, like No. 3, \$3.00. Full outfit included—pads, ink, box, etc. Sent by mail postpaid. Without ink and pads, 50c less.

Put your stamp on every card, letter, paper, book, or anything else that you may send out by mail or express and you will save yourself and all who do business with you "a world of trouble." I know, you see.

We have those suitable for Druggists, Grocersmen, Hardware Dealers, Dentists, &c., &c. Send for Circular.



No. 2.

PEETS' COMBINATION CAGE

FOR SHIPPING AND INTRODUCING QUEENS.

The best one for the purpose out; send 12c in postage stamps and get one. Address
3d T. O. PEET, Box 64, Canajoharie, N. Y.

SAVE YOUR FOWLS

and get Price list of Fancy Poultry,
Italian Bees, &c., by addressing

3d J. R. Landes,
Albion, Ashland Co., Ohio.

ITALIAN QUEENS.

All bred from imported mothers of my own importation. Dollar queens, \$1.00; ready in April. Tested queens before June 1st, \$3.00; after, \$2.50. Full colonies of Italians from \$7.00 to \$10.00. Four frame nucleus with tested queen, before June 1st, \$5.00, after, \$4.50. Comb Foundation, Bee-Keepers' Supplies, &c.
2td PAUL L. VIALLOU,
Bayou Goula, La.

CYPRIAN, ALBINO, AND ITALIAN BEES,

AT PRICES TO SUIT PURCHASERS.

I am prepared to furnish, Cyprian, Albino and Italian Queens, bred from imported and select home bred mothers, warranted pure, safe arrival guaranteed. Send for price list before purchasing elsewhere. Address

3-8d LEVI R. LASH,
Summit Station P. O., Schuylkill Co., Pa.,
or HENRY C. HEISLER, Minersville, Pa.

18 Years' Experience

in propagating Queen Bees from Imported mothers from the best districts of Italy. Persons purchasing Queens or swarms of me will get what they bargain for. Send for circular. WM. W. CARY,
1tding Colerain, Franklin Co., Mass.

DADANT & SON.

COLONIES.

With Imported, tested, Italian queen.....\$13 00
" home-bred ".....9 00

Hybrids and blacks in movable frame or box hives.
Have wintered over

100 IMPORTED QUEENS,

and will continue to receive 2 shipments every month from May to September.

ROOT AND DUNHAM FOUNDATION.

The purest and brightest yellow foundation made. Hives, Extractors, Cans for uncapping, Veils, Smokers, Pails, Jars, Knives, &c.

Send your name on a postal card for circular and sample of foundation free.

3-8d CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

FOREMOST

IN THE RANK OF SUPPLY DEALERS,

J. H. NELLIS,

At the end of the first year in his large brick factory, would invite attention to his unexcelled facilities for supplying Bee Hives, Honey Boxes, Shipping Crates, Bee Feeders, Honey and Wax Extractors, Knives, Queen Cages, Smokers, &c., &c. Also

ITALIAN AND CYPRIAN QUEENS,

Full Colonies, Nuclei, &c. We are positively headquarters for

COMB FOUNDATION.

We make and keep in stock drone and worker fdn. Made on the Root machine, also Flat Bottomed fdn., both wired, and the thin for boxes. We have just purchased a machine and can manufacture and supply the Dunham Foundation. We guarantee our fdn. to be as good as the best on the market.

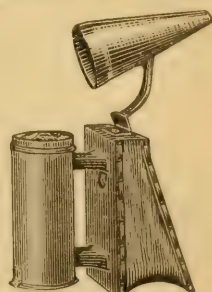
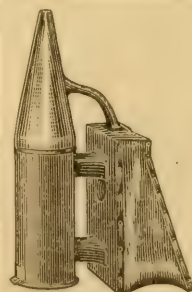
We pay highest cash price for bees wax or work it on shares.

Our BEE-KEEPERS' EXCHANGE is a Monthly at 75c per year; 6 months for 38c; 3 months for 20c. No live bee-keeper can afford to be without it.

Our price list is free to all, and is a cyclopedia of useful information. Write to

J. H. NELLIS,

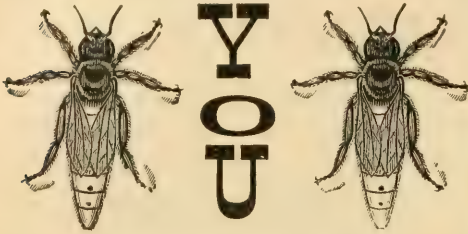
3d Canajoharie, N. Y.



We furnish everything, from a wire nail to a steam engine. For bottom prices on implements and supplies used in bee culture, send for our Illustrated, Descriptive Catalogue. It will tell you all about Scovell's, "Eureka," cold blast, direct bee smoker. Catalogue free. Send for it.

3-8d Address SCOVELL & ANDERSON,
Columbus, Cherokee Co., Kansas.

BEE KEEPERS intending to purchase Bees or Queens will do well to send for my New Circular, before purchasing elsewhere. Pure Extracted Honey wanted in exchange for Bees and Queens.
2-3d A. W. CHENEY, Orange, Mass.



Should Read Our

Apiarian Catalogue for 1880!

It will **PAY** you to do so. Write your name, and those of your friends who keep bees, on a postal card, at once, and direct it to

H. A. BURCH & CO.,

3-5d

SOUTH HAVEN, MICH.

QUINBY'S New Bee-Keeping; By L. C. Root.

The latest, most practical, and most fully illustrated work published.

Price, by mail, post paid, \$1.50.

BELLOWS BEE SMOKERS,

During the past year we have perfected, and fully tested one of the finest improvements ever made on smokers.

We are now prepared to offer the most perfect smoker on the market. No more sparks or ashes in the hives. The only perfect cold blast smoker made.

Send for our circular for 1880, giving illustration and full description of our new invention, and price list of everything practical that is used in the apiary.

L. C. ROOT & BRO.,

3d

Mohawk, N. Y.

FOR SALE CHEAP.

200 COLONIES ITALIAN BEES.

Having over 450 colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100, or 200, at \$5. delivered on board of any Mississippi River steamboat. All the queens are daughters of Imported mothers from two districts of Italy. All in newly painted movable frame hives.

3tfd

PAUL L. VIALLOIN,

Bayou Goula, La.

Albino and Italian Queens, Full Colonies, and Nuclei, at Reasonable Prices.

I am prepared to furnish early Queens—Pure Albino, and Italian Queens bred from imported and select home-bred mothers, warranted to be pure. Safe arrival guaranteed. Also Hives, Root's Extractors, and Apiarian Supplies generally. Send for Price List, &c.

3d

Address

S. VALENTINE,

Double Pipe Creek, Carroll Co., Md.

BINGHAM & HETHERINGTON.



You can lean on a Bingham Smoker in the hour of trial. One match per day, and wood of any kind, is all that's needed. It needs no fussing or cleaning or dampers, as it works just as well pointing down as up, and never goes out. Previous to my invention and patent, the draft to all bellows smokers was through the bellows; now, all bellows smokers use an open draft. The largest and most scientific bee-keepers use Bingham Smokers, some using as many as fifteen in their various apiaries.

No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give satisfaction; but we have received hundreds of letters expressing the most unbounded satisfaction and appreciation of our invention. Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons, is it? Patented January 9, 1878; re-issued July 9, 1878.

The extra large Smoker and the Extra Standard for 1880 will have our new extra-wide shields, which entirely protect the hands and bellows from heat, and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement.

The Bingham & Hetherington Patent Uncarving Knife is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical, and scientific bee-keepers in Europe and America pronounce it "the best honey-knife ever made."

Extra Large Smokers.....	2½ inch,	\$1.50
Extra Standard ".....	2 "	1.25
Plain " ".....	2 "	1.00
Little Wonder ".....	1½ "	.75
" " ".....	Per ½ doz.....	3.00
Bingham & Hetherington Knife.....		1.00
" " ".....	Knife and Cap-Catcher.....	1.25

If to be sent by mail, or singly by express, add 25 cents each, to prepay postage or express charges. Send for circular. If to sell again, apply for dozen or half-dozen rates. Address T. F. Bingham or

BINGHAM & HETHERINGTON,

3d

OTSEGO, MICH.

H EADQUARTERS for the Best Queens and Colonies in the U. S. As I make Queen rearing a specialty, I guarantee to those ordering from me, exactly what they bargain for. Circulars free.

3-5d

D. A. PIKE, Smithsburg, Wash. Co., Md.

C. E. WRIGHT & CO., MAKE SIMPLICITY AND LANGSTROTH HIVES, AT BEAVER DAM, WIS., CHEAP.

3d

SEND FOR PRICES.

45 SWARMS OF BEES FOR SALE!

Some in Langstroth Hives, and some in Simplicities. All in good condition.

3d

Address,

THOMAS BROWN,

Mt. Morris, Genesee Co., Mich.

S END for Price List of Pure Italian Bees and Queens, Comb Foundation, Section Boxes, &c., &c.; one Barnes' Foot-Power Saw, one Comb Mill, (9 inch) &c., &c. Prices reasonable.

3d

FISCHER & STEHLE, Marietta, Wash. Co., O.

300 COLONIES BEES FOR SALE!

Come to Council Bend, Ark., on the Miss. River, and buy 300 Colonies of Bees. I am determined to sell.

3-4

GEO. B. PETERSON.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For description of the various articles, see our Twenty-First Edition Circular and Price List, mailed on application.

For directions *How to Make* all these various articles and implements, see A B C of Bee Culture.

This Price List to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of postage required.

To Canada, *merchandise* by mail is limited to 8½ oz., and nothing can be sent for less than 10 cents.

A B C of Bee Culture, Five Parts complete in one, paper cover.....	1 00
The same, neatly bound in cloth.....	1 25
Single Parts, in paper, each.....	25
15 Alighting Board, detachable (See A B C) \$	10
Alisike Clover. See seeds.	
Balances, spring, for suspended hive (60 lbs.)	8 00
Barrels for honey.....	2 50
" " waxed and painted.....	3 50
10 Basket for broken combs to be hung in the Extractor.....	25
Basswood Trees for planting. See price list.	
Bees, per colony, from \$8 to \$16. See price list.	
0 Bee-Hunting Box, with printed instructions	25
0 Binder, Emerson's, for GLEANINGS.....	50, 60, 75
10 Blocks, iron, for metal cornered frame making.....	15
Buckwheat. See seeds.	
10 Burlap for covering bees, 40 in. wide, per yd	10
Buzz-Saw, foot-power, complete.....	35 00
Buzz-Saws, extra, 80c, to \$3.25. See price list.	
60 Buzz-Saw mandrel and boxes complete for 6 inch saws (no saws included).....	5 00
The same for 7 and 8 in. saws (not mailable)	7 00
4 Cages for queens, provisioned (See price list)	10
" " " per doz.....	1 00
20 Candy for bees, can be fed at any season, per lb.....	.08 to 15
Cans for shipping extracted honey (See Honey), from 25c to \$2.00.	
0 Cards, queen registering, per doz.....	06
" " " per 100.....	40
60 Chaff Cushions for wintering (See A B C)...	30
9 " " without the chaff.....	20
Chaff Hive (See Hives).....	5 00
2 Cheese cloth, for strainers, per yard.....	06
Clamps for making section boxes.....	75
10 Claps for transferring, package of 100.....	15
Climbers for Bee-Hunting.....	2 50
Comb Basket, made of tin, holds 5 frames, has hinged cover and pair of handles.....	1 50
Comb Foundation Machines complete \$15 to 100	00
10 Comb Holder to put on edge of hive.....	25
Combs in metal cornered frames, complete	25
20 Corners, metal, per 100.....	50
20 " " top only, per 100.....	60
15 " " bottom, per 100.....	40
Corners, Machinery complete for making \$250 00	
Crate for shipping comb honey. See Hives.	
40 Division Boards of cloth and chaff.....	20
12 Duck, for covering frames and for feeders, 29 inches wide, per yd.....	20
15 Enameled Cloth, bees seldom bite or propolize it, per yard, 45 inches wide, 30c. By the piece (12 yards).....	28
Extractors, according to size of frame, \$6 50 to 10 00.	
" Inside and gearing, including Honey-gate.....	5 00
" Hoops to go around the top.....	50
" " per doz.....	5 00
5 Feeder, Simplicity (See price list) 1 pint.....	05
7 Feeders, 1 quart, tin.....	10
4 The same, half size.....	05
25 The same, 6 qts, to be used in upper story	50
20 Feeders, open air.....	15
3 Files for small circular rip saws, new and valuable, 20c; per doz, by express.....	2 00
07 " The same, large size, double above prices.	
1 " 3 cornered, for cross-cut saws, 10c; doz Foundation. See Comb Foundation.	1 00
60 Fountain Pump, or Swarm Arrestor.....	8 50
5 Frames with sample Rabbet and Claps.....	10

18 Galvanized Iron Wire for grapevine trellises per lb. (about 100 feet).....	20
25 Gates for Extractors tinned for soldering..	50
Gauge for planing lumber, brass.....	50
" " making hives (See Hives).....	50
50 Gearing for Extractor with supporting arm	1 25
Glass. See price list.	
0 GLEANINGS, per year.....	1 00
For prices of back vol's, see price list.	
Gloves. See Rubber Gloves.	
Grape Sugar for feeding bees. See price list.	
Grape vines for shading hives. See price list.	
Hammers and nails. See price list.	
Hives from 50c to \$6 25. See price list.	
Honey. See price list.	
" Plants. See seeds.	
0 Honey Knives, straight, 75; curved blade..	1 00
" " ½ doz, by mail.....	4 00
" " ½ doz by Express.....	3 75
Jars for shipping extracted honey. See Honey.	
Labels for honey, from 25 to 50c per 100; for particulars see price list.	
Lamp Nursery, for hatching queen cells...	5 00
0 Larvæ, for queen rearing, from June to Sept.....	25
15 Leather for smoker bellows, per side.....	50
0 Lithograph of the Hexagonal Apiary.....	25
0 Magnifying Glass, pocket.....	30
" " Double lens, brass, on three feet.....	75
0 Medley of Bee-keepers' Photos, 150 photo's	1 00
12 Microscope, Compound, in Mahogany box	2 50
0 Prepared objects for above, such as bee's wing, sting, eye, foot, &c., each	20
7 Muslin, Indian head, for quilts and cushions, pretty stout, but not good as duck, per yard.....	10
Nails. See Hammers and nails.	
10 Opera Glasses for Bee-Hunting.....	5 00
18 Paraffine, for waxing barrels, per lb.....	25
Photo of House Apiary and improvements Planes and Planers. See price list.	
15 Pruning saws for taking down swarms, 75 and 85	
0 Queens, 25c to \$12 00. See price list.	
2 Rabbits, metal, per foot.....	02
0 Rubber Gloves, \$1.50 and \$1.75. See price list.	
0 Rubber Stamps, \$1.50 to 3.00. See price list.	
0 Rules. (See Pocket Rules) 12 and 17c.	
Salicylic acid, for foul brood, per oz.....	50
10 Saw Set for Circular Saws.....	75
Saws. See Circular Saws.	
Scales for weighing honey, etc. See price list.	
0 Scissors, for clipping queen's wings.....	40
0 Screw Drivers, all metal (and wrench combined 4½ inch, 10c; 5 inch, 15c.	
6 Section Boxes, fancy, hearts, stars, crosses, &c., each.....	05
Section Honey Box, a sample with strip of fdn. and printed instructions.....	05
Section Boxes in the flat by the quantity, \$6 00 per thousand and upwards, according to size; for particulars, see price list.	
Case of 3 section boxes, showing the way in which the separators are used, suitable for any kind of hive (See price list)	08

SEEDS OF HONEY PLANTS.

18 Seed, Alsike Clover, raised near us, per lb..	30
18 " Catnip, good seed, per oz. 10c; per lb.	1 00
0 " Chinese Mustard, per oz.....	10
18 " Mellilot, or Sweet Clover, per lb.....	75
18 " White Dutch Clover, per lb.....	30
18 " Motherwort, per oz. 10c; per lb.....	1 00
18 " Mignonette, per lb. (20c per oz).....	1 40
18 " Simpson Honey Plant, per oz.....	50
18 " Silver Hull Buckwheat, per lb.....	10
" " " peck, by Express	60
" Common " per peck.....	50
18 " Summer Rape. Sow in June and July, per lb.....	15
" Spider plant, per oz.....	50
A small package of any of the above seeds will be sent for 5 cents.	
Separators, tin, for section boxes. See Section Boxes.	
5 Sheets of Enameled Cloth to keep the bees from soiling or eating the cushions.....	10
Shipping Cases for 48 section frames of honey.....	50
The same for 24 sections.....	30
(This size can be sent by mail in the flat, for 75c.)	
1 Slate Tablets to hang on hives.....	1½

SMOKERS.

Smoker, Quinby's (to Canada 15c extra)	1 50	1 75
" Bingham's	\$1 00; 1 50;	1 75
25 " Our own, see illustration in price list		75
00 Soldering Implements		1 00
Swarming Box		75
2 Tacks, tinned, per paper, (three sizes)		05
For larger quantities see Hammers and nails.		
5 Thermometers		20
10 Transferring clasps, package of 100		15
Tin, see price list.		
0 Veils, Bee, with face of Brussels net, (silk)		75
The same, all of grenadine (almost as good)		
Veils, material for, grenadine, much stronger than tarlatan, 21 inches in width, per yard		20
Brussels Net, for face of veil, 29 inches in width, per yard		1 50
Wax Extractor		3 00
Copper bottomed boiler for above		
5 Wire cloth, for Extractors, tinned, 5 meshes to the inch, per square foot		13
2 Wire cloth, for queen cages, tinned, 18 meshes to the inch		10
8 Wire cloth, painted, for shipping bees, 14 mesh to the inch, per square foot		05
Wire for grape vine trellises. See Galvanized iron wire		

All goods delivered on board the cars here at prices named. A. I. ROOT, Medina, Ohio.

Hale's Price List.

Send for my Circular and Price List for 1880. Early Queens a specialty. Address
2-11d E. W. HALE, Wirt C. H., W. Va.

IMPROVED LANGSTROTH AND SIMPLICITY AND CHAFF HIVES

Having enlarged my facilities for the manufg of Bee Hives and Section Boxes, I shall be able the present season to furnish the trade with better goods and for less money than any house in the West. Please send for Price List.

4d S. D. BUELL, Union City, Mich.

WANTED! AN APIARIST, competent to prepare for shipment a car load of bees, and bring them from Iowa to Colorado, and then take charge of them for the remainder of the season of 1880. Address without delay— AUGUST CHR STIE, Leadville, Lake Co., Colorado.

HEADQUARTERS FOR APIARIAN SUPPLIES.

Steam Power. New machinery complete. Our facilities for manufacturing Hives, Crates, Sections, &c., are first class. Before ordering, tell us what you want. We can do you good. Comb Foundation, Extractors, Knives, Smokers, &c., constantly on hand. Full Colonies and Nuclei a specialty. Send for our new System for Wintering Bees Successfully.

4tfid HIRAM ROOP, Carson City, Montcalm Co., Mich.

Mollie Heath Honey Plant!

We have at last succeeded in getting some seed of this beautiful plant, which is described on page 148 of GLEANINGS for 1879. The seed is flat and bean-like. As we have but a few, in order to make them go around, we offer them postpaid, at 5 cents each. To Canada, 2 cents extra.

A. I. ROOT, Medina, Ohio.

100 POUNDS OF BEES WANTED!

State race, when you can deliver, price per pound, and quantity you wish to furnish.

3-4 T. L. VON DORN, Omaha, Nebraska.

ENGINE FOR SALE!

Four horse power engine, as good as new (same as advertised in GLEANINGS) for sale cheap. In use 2 years. Call on or address E. F. BEARD, Republic, Seneca Co., Ohio.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with * use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st. If wanted sooner, see rates in price list.

*E. W. Hale, Wirt C. H., W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-3tf
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	1tfid
Miller & Hollam, Kewaskum, Wash Co., Wis.	4-4
*J. T. Wilson, Mortonsville, Woodford Co., Ky.	4-4
*J. L. Bowers, Berryville, Clarke Co., Va.	1-4
*King & White, New London, O.	12tfid
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*R. Landes Albion, Ashland Co., O.	1tfid
*J. E. Walker, Millersville, Christian Co., Ills.	1-6
*D. A. McCord, Oxford, Butler Co., O.	2-1
*D. E. Best, Best, Lehigh Co., Penn.	2-8
*A. S. Collins, New Orleans, La.	3-4
*R. Robinson, LaCade, Fayette Co., Ill.	3-8
*S. E. Newman, Norwalk, Huron Co., O.	3tfid
*C. C. Vaughan, Columbia, Maury Co., Tenn.	3tfid
*S. W. Salisbury, Kansas City, Jackson Co., Mo.	3-8
*J. M. C. Taylor, Lewis-town, Fed. Co., M. I.	3-4
*S. D. McLean & Son, Culleoka, Maury Co., Tenn.	3-8
*S. D. Moore & Co., Atlanta, Fulton Co., Ga.	3-8
*T. G. McGaw, Monmouth, Warren Co., Ill.	3-8
*R. Thomson, Terry, Hinds Co., Miss.	3-8
*Lewis A. Best, Best, Lehigh Co., Pa.	4-9
*J. B. Bray, Lynnvill, Giles Co., Tenn.	4-9
J. W. Newlove, Columbus, Franklin Co., O.	4-7
*H. T. Bishop, Chenango Bridge, Broome Co., N. Y.	4
*O. H. Townsend, Hubbardston, Ionia Co., Mich.	4-9
*Thos E. Price, Baden, St. Louis Co., Mo.	4-8
*Oliver Foster, Mt. Vernon, Linn Co., Iowa.	4tfid

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La.	1tfid
Milo S. West, Pontiac, Oakland Co., Mich.	1-6
A. A. Fradenburg, Port Washington, Tus. Co., O.	1-6
T. E. Wittman, 318 N. 6th St., Camden, N. J.	3tfid
S. F. Newman, Norwalk, Huron Co., O.	3tfid
Springer Bros, Berne, Adams Co., Ind.	3-2
J. F. Hart, Union Point, Greene Co., Ga.	4-3
J. W. Newlove, Columbus, Franklin Co., O.	4-6

ITALIAN QUEENS.

All bred from imported mothers of my own importation. Dollar queens, \$1.00; ready in April. Tested queens before June 1st, \$3.00; after, \$2.50. Full colonies of Italians from \$7.00 to \$10.00. Four frame nucleus with tested queen, before June 1st, \$5.00, after, \$4.50. Comb Foundation, Bee-Keepers' Supplies, &c. PAUL L. VIALLON, Bayou Goula, La.

I will give \$25.00 for a second-hand, Barnes foot-power saw, complete and in good order. Address immediately, W. S. HART, New Smyrna, Fla. 4

DOLLAR QUEENS FOR \$1.00.

Kossuth, Alcorn Co., Miss. DR. N. C. STEELE.

CHEAP BEES!

About 30 Colonies in good, movable-comb hives, at \$5. each. E. A. GASTMAN,
4 Decatur, Macon Co., Ill.

LOWER THAN EVER TO CLOSE OUT!

A lot of Section Honey Boxes $4\frac{1}{2} \times 4\frac{1}{2}$; a Foundation Machine 9 inch. Root's make; a lot of Italian Bees and Queens raised from imported mother.

Address—FISCHER & STEHLE,
4d Marietta, Wash. Co., Ohio.

SWEET HOME RASPBERRY.

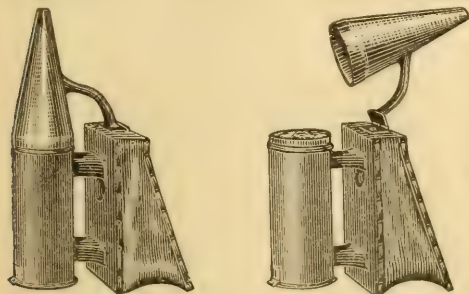
Originated by D. D. Palmer, New Boston, Ill. 1,050 berries picked from one cane. Never winter kills. The largest and best black cap. Send for circular.

READ THIS!

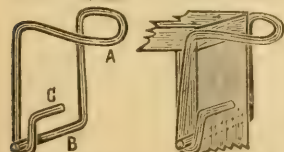


We are now prepared to give bottom prices on all kinds of Bee Hives, Sections, &c., but we make a Specialty of the "Boss" One Piece Section, heretofore called the Lewis Section, of which I am the inventor. See article in Leb. No. of A. B. J. on this One Piece Section. Send for Price List.

JAMES FORNCROOK & CO.
Watertown, Wis., April 1st. 1880. 4d



Scovell's, Eureka, Cold blast, Bee Smoker is Boss. It is a cold blast or a hot blast, both at once or separately, at the will of the operator. It is the only cold blast smoker on the market that has no tubes or other complicated machinery in the fire barrel to interfere with filling and cleaning. Large size belows, $5\frac{1}{2} \times 6\frac{1}{2}$ inches; fire barrel, $2\frac{1}{2}$ inches. Price \$1.00; by mail, \$1.25. Send for illustrated, descriptive catalogue and price list of Hives, Implements, and Supplies used in bee culture. Address—
4d SCOVELL & ANDERSON, Columbus, Kansas.



MARTIN'S
wire support for frames. Cheapest support in use; durable and just the thing. Sample by mail, 6 cts; 30 cts. per lb., 100 in a lb.

TRY OUR ITALIAN QUEENS!

Send for price list. Bees by the pound, nuclei, or colony. Circulars of our Bees, Queens, and Novelties sent free. Address—

4-9d J. H. MARTIN, Hartford, N. Y.

SEND FOR PRICES OF

Langstroth Simplicity Hives,

SECTIONS, FRAMES, AND

COMB FOUNDATION,

4 MANUFACTURED BY

MERRIAM & FALCONER, Jamestown, N. Y.

NOTICES OF THE A B C.

I received the "A B C of Bee Culture," bound in cloth, and think it the cheapest book, at \$1.25, that has passed through my hands in many a day.

JAMES MCNEILL.

Hudson, N. Y., February 17, 1880.

A B C was received in due time. Many thanks. Although I have been reading A B C in back numbers of GLEANINGS, yet I am very much surprised and pleased with the finish and make-up of the book. I have all the earlier books on bee culture, but must say that A B C is best of all, and fully up to the times.

DR. A. V. CONKLIN.

Delaware, O., February 17, 1880.

The A B C book was received on the 10th inst., and is a beautiful book. To say that the lady to whom I presented it was well pleased with it, would be a tame expression of her joy.

S. H. LANE.

Whitestown, Ind., February 12, 1880.

The A B C is the best bee book I ever read. I would not take \$50.00 for it, if I could not get another, for I consider it worth that to any bee-keeper.

A. J. BRUMBAUGH.

Cottage Grove, Lane Co., Oregon, Feb. 20, 1880.

Your A B C came all right. Thanks. I think it is one of the best and clearest books it has been my good fortune to get hold of, and tells all that is needed to be known, except what must be got by experience.

A. H. BROWNE.

New Orleans, La., March 14, 1880.

Your "A B C in Bee Culture" is at hand. I am more than pleased with it. It is a much better book than I expected to see. I would have sent for it before, if I had had the least idea that I could have received as much information in regard to bees and their management, as I have found in it.

LESTER B. CARRINGTON.

Mount Joy, Delta Co., Texas, Feb. 20, 1880.

On the stand at my right hand, is the "A B C of Bee Culture," which cost me \$1.25, and I would not take \$100.00 for it, and do without it. It is the best book on the subject I have ever had the pleasure of reading.

LOUIS WERNER.

Edwardsville, Madison Co., Ill., Mar. 8, 1880.

If you could see me searching, during every spare moment, the well stored pages of the A B C, you would not wish for any better expression of my thoughts concerning it.

L. E. HARRIS.

Franklin Depot, Delaware Co., N. Y., Mar. 8, 1880.

I have followed the instructions recorded in your "A B C of Bee Culture," and find them a perfect success. My bees have done exceedingly well the past year.

JEFFERSON LEMON.

Dodson, O., March 9, 1880.

I have just received my A B C book, cloth binding. It is so nice, that I have sold it before leaving town; so I will enclose 90 cts. more for another for myself.

W. H. SIMMONS.

Medon, Madison Co., Tenn., Mar. 13, 1880.

As for that A B C book, I would not take \$10.00 for it, if I could not get another one.

WM. TRACY.

Sherburne, N. Y., Jan. 30, 1880.

CLEANINGS AS AN ADVERTISING MEDIUM.

Mr. Root:—Enclosed you will find amount due you on H. Smith's account for advertisement in GLEANINGS. He received orders almost as soon as he received GLEANINGS. This is the money that he received for the first order.

J. O. FACEY.

New Hamburg, Canada, Feb. 6, 1880.

BEEKEEPERS intending to purchase Bees or Queens will do well to send for my New Circular, before purchasing elsewhere. Pure Extracted Honey wanted in exchange for Bees and Queens.

2-5

A. W. CHENEY, Orange, Mass.

USEFUL ARTICLES

THAT CAN BE SOLD FOR

FIVE CENTS EACH.

TERMS OF PAYMENT—Strictly Cash With Order.

All Prices Subject to Change without Notice

Postage on each		Price of 10	Price of 100
2	Awls, Scratch, Wood Handle.....	45	4 00
3	Awls, Brad, Assorted Sizes.....	45	4 00
8	Baskets, $\frac{1}{2}$ bushel.....	40	3 75
	" $\frac{1}{4}$ ".....	45	4 25
	" $\frac{1}{2}$ ".....	50	4 75

Just think of it! a Half Bushel Market Basket for five cents.

Bluing, Oldroyd's Liquid, price of box containing 3 dozen bottles, \$1 50.
1 | Brushes, Paint, Paste, or Sash..... | 35 | 3 00
Read what a customer says of these: "Your Five Cent Brush is as good as one I paid 50c for."
ISAAC B. RUMFORD.

Bakersfield, Kern Co., Cal.
4 | Brooms, Whisk..... | 45 | 4 25
Nice to brush the sawdust off your clothes; a very good brush broom in fact, for 5c.

12 | Coal Shovels, Wrought Iron..... | 48 | 4 75
5 | Corn for planting, $\frac{1}{2}$ pint of best early sweet, 3 kinds, good for bees..... | 35 | 4 00
5 | Cups, Tin, 1 Pint..... | 40 | 3 50
6 | Dippers, Tin..... | 45 | 4 00

A real Serviceable Dipper, and just the thing for getting a cool drink out of the spring, or "old oaken bucket."

2 | Dish Covers, Blue Wire Cloth, 6 in... | 45 | 4 40
2 | The thing for Shipping Queen and $\frac{1}{2}$ lb. Bees.
9 | Dust Pans..... | 45 | 4 25

Tip-top for keeping the Floor to your Shop Clean, and just the nicest Present for your Little Girls.

3 | Drawer Pulls..... | 30 | 2 75
1 | File Handle, self adjusting..... | 45 | 4 25
13 | Foot Scrapers..... | 45 | 4 25

Splendid (for your wife's carpet) during this muddy weather.

2 | Funnels, $\frac{1}{2}$ Pint..... | 45 | 4 25
8 | Garden Trowels..... | 45 | 4 25
Would be cheap at 4 Times the Price.

1 | Gimlets..... | 40 | 3 50
2 | Glass Cutters..... | 30 | 2 50
Just such as have been selling from 25 to 50c each.
1 Ink, "W. O.'s," any Color, in Large 2 oz. Bottles;

For Wholesale Prices, see page 192.

3 | Kitchen Knives, Fine Steel, metal Handle, labeled "Kitchen Friend" | 40 | 3 50
2 | Knives and Forks for Table Use (a Knife and a Fork Are Two)..... | 48 | 4 75

Good Steel, but rather Plainly handled.
1 | Knives, Pocket, 1 Blade, for Children. | 45 | 4 25
Not very good, nor very handsome.

3 | Magnets, Horse Shoe..... | 48 | 4 50
A beautiful Scientific Toy, formerly sold as high as 50c. These are Nicely Finished, and Very Powerful; be careful Not to let them Touch WATCHES.

A customer writes: "The magnets attract all the little folks, and some big ones too. I want you to send me a half-dozen."
H. H. Fox.

Tribulation, Mo., Feb. 25, 1880.

5 | Mallets, Wood. Just the nicest thing to Drive Sections Together..... | 45 | 4 25
3 | Match Boxes, Tin Japanned..... | 40 | 3 75
7 | Match Safes, Bradded work..... | 40 | 3 75

5 | Marking Gauges. A very pretty tool for the money..... | 45 | 4 25
2 | Measuring Tapes, 36 inches, spring, in tin case..... | 45 | 4 00

5 | Molasses Cups, Tin, Nice for Honey..... | 48 | 4 75
5 | Mouse Traps to keep in the Honey House..... | 35 | 3 00

Mucilage and Brush.....
Exactly like those that you pay 25c for. I do not know how it is possible for them to be made so low. Three dozen are packed in a box, and \$1.85 pays for box and all.

1 | Needles, the very best I know of in the world (see 25c counter)..... | 30 | 2 50
4 | Nest Eggs, White Glass..... | 35 | 3 00

2 | Oilers, Zinc, Neat, Pretty, and Just Right to Keep All the "Machinery" Well Oiled..... | 45 | 4 00
3 | Papers of Pins..... | 45 | 4 00

Not first quality, for they are made of iron, as your Magnet will tell you very quickly; but they are useful for some purposes. For best brass pins, see 10c counter.

5 | Pans, Jelly cake, 8 inch..... | 45 | 4 00
" Milk, 1 quart..... | 45 | 4 00

1 | Pencils, Lead, The Kind I Prefer (Am. Phonographic)..... | 45 | 4 00
2 | Perfumery, Pretty, but not very good..... | 45 | 4 25

12 | Rules, 1 Foot, for School Children..... | 35 | 3 00
7 | Sad Iron Stands..... | 35 | 3 25
2 | Scissors, Japanned Handles, and Polished Blades..... | 45 | 4 25

Either round point for the pocket, and for little girls, or sharp pointed. Wonderfully well finished for such an insignificant price. Nothing equal to the round points for making a little girl happy, but you must look out for the pieces.

3 | Scoops, Tin, for Getting Honey out of a Barrel..... | 45 | 4 00
2 | Screw-drivers, Sewing Machine, Neat, Wood Handle, fine steel..... | 25 | 2 00

3 | Screw-drivers, Metal Handle..... | 45 | 4 00
See page 29, price list.

0 | Seeds, Almost any Kind, per Package..... | 35 | 3 00
5 | Soap, Fancy Cakes, Perfumed Toilet, but good sized cakes, "Boss"..... | 40 | 3 75

12 | " Blue India, large Cakes and best Soap in the market..... | 48 | 4 75
13 | Soap Cups, to go on edge of tub or Bucket..... | 45 | 4 00

2 | Spoons, Table, Tinned Iron..... | 38 | 3 50
1 | " Tea, " (Two for 5c.)..... | 20 | 1 75

3 | Stands, Silvered Wire, for Hot Dishes..... | 45 | 4 00
6 | Stove Polish, Dixon's Best..... | 45 | 4 00

5 | Tin Plates, for Honey, Set of 3, Assorted (Separately 75c, \$1.00, and \$1.75 per hundred)..... | 40 | 3 50
2 | Tacks, Tinned, 3 Sizes of Papers..... | 35 | 3 00

6 | Tack Hammer, Coppered, Iron Handle..... | 40 | 3 50
4 | " Wood Handles..... | 35 | 3 00

4 | Tea Bells, very neat and pretty, nice for the baby and useful besides..... | 45 | 4 50
5 | Tin Pails, 1 Pint..... | 50 | 5 00

Cover and all, and just right for $\frac{1}{2}$ lb. honey.
6 | Tin Cake Pans, Scallop, very pretty..... | 45 | 4 50
6 | Tin Wash Basins, 8 inch..... | 45 | 4 25

If a Bee keeper don't need one, I don't know who does, and these are so Neat, Pretty, and convenient, I verily believe I should sell 4000 of them to-day, if I could just pass a lot of them around among you. Only just 5c. Just think of it!

1 | Tooth Brushes, Neat, and Excellent, but rather small..... | 45 | 4 25
1 | Views for Stereoscopes, from all Countries of the World..... | 45 | 4 25

2 | Wax Ball, for Work Box, in Shape of Egg, Pear, Plum, etc..... | 48 | 4 75
12 | Whet-stones, Small but "good grit"..... | 45 | 4 25

2 | Wire Nails, per Paper, 8 sizes..... | 35 | 3 00
5 | Yard Stick, Graduated and numbered as nice as a Pocket rule..... | 42 | 4 00

USEFUL ARTICLES

THAT CAN BE SOLD FOR

TEN CENTS EACH.

5 | Balances, Spring, 24lb., Accurate... | 90 | 8 75
A customer writes: I can't see how you can sell that Spring Balance for 10c. C. B. THWING.
Hamilton, Mo., Feb. 4, 1880.

2 | Belt Punches, hollow..... | 100 | 10 00
8 | Brooms, Whisk, Wood Handles, good | 85 | 8 00
4 | Broom Holders, silvered wire, just right for above..... | 48 | 4 50

5 | Butcher Knives, Steel and Temper Best quality, 8 $\frac{1}{2}$ inches long..... | 90 | 8 75
3 | Chamois Skins for Cleaning Cutl'y, &c..... | 85 | 8 00

5 | Chisels with Handles, $\frac{1}{2}$ inch..... | 80 | 7 75
12 | Chopping or Mincing Knives, steel..... | 85 | 8 00
5 | Cold Chisels, best tempered steel..... | 85 | 8 00

8 | Brooms, Hearth..... | 90 | 8 50
5 | Brushes, Clothes, an astonishingly good Brush for a dime..... | 85 | 8 00

4 | " Hair..... | 90 | 8 75
2 | " Paint, Will do to paint hives, but are rather small..... | 90 | 8 50

5 | " Whitewash..... | 90 | 8 50
Concluded on page 191.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

APRIL 1, 1880.

No. 4.

A. I. ROOT,

Published Monthly.

Publisher and Proprietor,

Medina, O.

Established in 1873.

TERMS: \$1.00 Per Annum, in Advance; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75c each. Single Number, 10c. Additions to clubs may be made at club rates.

NOTES FROM THE BANNER APIARY.

No. 5.

RAISING QUEENS AND EXTRACTED HONEY.

SEVERAL correspondents have written something as follows: "I read your report in Jan. GLEANINGS, and if it is not too much trouble I wish you would write and let me know how you manage to raise both queens and extracted honey; tell me *just how you manage it*, giving details as much as possible."

As it would take too much time to write to each correspondent, and as the subject is one of general interest, I take this method of replying.

Although I have had only two years experience in queen rearing, I have discovered that nothing is gained by trying to rear queens too early in the season; it is better to wait until the warm weather has really come to stay, and the bees are storing honey, which, in this locality, is about the last of May or first of June.

My first step is to place a frame filled with fdn., or with nice worker comb that has never contained brood, near the center of the colony that has my imported queen. Each day I make an examination, and, usually, in a day or two, I find the queen laying in the comb or fdn. that was inserted. On the top of the frame I mark the date when the queens from these eggs will hatch. In about three days, these eggs will hatch into minute larvæ, when they will be ready to be given to a queenless colony.

A colony that is to build queen cells is deprived not only of its queen but of all of its brood. This not only insures plenty of nurse bees, but it prevents the bees from rearing queens from any other brood except that which is furnished them. You can sell the queen that you remove, and give the frames of brood to other colonies, or you can form a new colony by removing a strong swarm to a new location, putting the queen, with a few of her own bees, and the frames of brood in a hive, filling it up with empty combs, and then placing it on the stand of the removed colony; or—well, there are a great many different ways of using them; you must do it as you think best.

As soon as the queen cells and worker brood are sealed over, the frame of comb upon which the cells are built is hung in the lamp nursery. About every

third day, a new lot of queen cells is started. A colony is not allowed to build more than one or two lots of cells, unless a fresh supply of nurse bees is given it from some other colony.

Two or three days before I expect the first lot of queens to hatch, I start as many two frame nuclei as there are cells in the lot. For nucleus hives, I use full sized Simplicities, putting a nucleus in each end of the hive, using chaff cushions for division boards, and having the entrances at diagonally opposite corners. To obtain bees and combs with which to stock the nuclei, I usually go to a full swarm and find the queen; the comb upon which she is found, with the adhering bees, is placed in the center of the hive filled with empty combs, and left upon the old stand; the old hive is set one side, while I look over its "contents," and divide them up into five nuclei, giving a frame of brood and a frame of honey to each nucleus. Most of the old bees return to the old stand, and as they have but little brood to care for at first, they will soon fill their combs with honey.

When nuclei are first formed, or when they have been queenless a day or two, or when the yield of honey is good, they are more apt to accept a virgin queen; but, taking the whole season through, I have found it the safest to give them a queen cell just ready to hatch.

When a queen is about ten days old, she begins to lay. I usually allow a queen to fill the combs pretty full of eggs before shipping her; it helps to keep up the strength of the nucleus.

One correspondent wishes to know how I keep queens until they are wanted. Queens are usually *wanted* just about as soon as—yes, a little *sooner* than—they begin to lay. I have never had to keep a queen more than a week, after she began to lay; if I did have to keep one, I should keep her in a nucleus.

The lamp nursery is a great "institution;" I couldn't raise queens for a dollar without it. Queen registering cards are a *necessity*.

Read "Queen Rearing" in the "A B C of Bee Culture;" it explains the whole subject *much* better than I can.

I leave some full colonies that I do not divide up into nuclei; later in the season, these colonies are employed in building queen cells. Sometimes take one or two frames from each of these colonies and

use them in forming nuclei; this helps to keep down the swarming fever. When these colonies get their hives full of brood and honey, and the yield of honey is good, I put on upper stories filled with empty combs; or, if I am a little "short" of empty combs, I fill each alternate frame with fdn. I tell you these empty combs are another great "institution;" one secret of my success is in having a good supply of these; and I always "manage" (either by purchasing them of bee-keepers who let their bees die, and are disgusted with the business, or by having fdn. drawn out during the buckwheat honey harvest) to have a good supply. A bee-keeper who will give his bees all the empty combs that they can fill during a good yield from basswood will be surprised at the amount of honey that the little fellows will stow away. My bees have not filled a frame with natural comb during the last two years, and I don't intend that they shall ever fill another. When the combs in an upper story are filled with honey, and the bees don't begin to seal it over, I raise the upper story and put another story filled with empty combs between that and the lower story. During a good yield of honey, these upper stories are examined every three or four days, and whenever a comb is found in which the honey is sealed one-third of the way down from the top it is removed to be extracted, and an empty comb put in its place. I seldom extract from the lower stories. Colonies that are building queen cells, having little brood to care for, soon fill their combs with honey; these combs, I remove for extracting, filling their places with empty combs. When the yield of honey is good, I give the strongest nuclei extra combs to fill; and when the honey is sufficiently ripened, I extract it. In the fall, the light swarms and nuclei are united.

I make queen rearing my first object, giving all of my bees plenty of combs to fill, and when the honey is ripe I extract it. There doesn't that seem simple and easy enough?

W. Z. HUTCHINSON.

P. S.—If my method of queen rearing can be improved, will some one please tell me where I am at fault?

W. Z. H.

Rogersville, Genesee Co., Mich.

Very good, friend H. I do not know how I can improve on your very plain instructions, or add anything, unless it be to suggest that a good many are claiming that cells reared under the natural swarming impulse are superior to those raised as you suggest. While I am by no means prepared to accept this as yet, I would advise carefully comparing queens reared as you suggest, with those of natural swarming. Most of us have queens in our apiaries, reared both ways. Let us see if we can detect a difference.

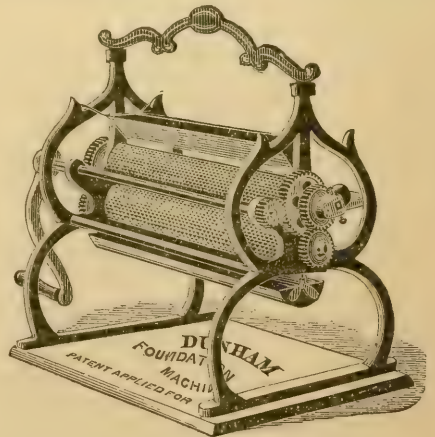
COMB FOUNDATION.

RECENT IMPROVEMENTS.

MANY keen and ingenious minds are busily at work at the problems I gave you on page 88, February No., but, although considerable progress has been made, and the prospect is that we shall succeed ultimately, it is so much a work of the multitude I hardly know who will merit the \$100 reward. It seems to be like the way in which the bees themselves make comb; one takes it up and gives it a twist or turn, and

then another takes it up and improves it a little, and so it grows. I am ready to hand over the reward, but I do not know but we shall have to choose a committee to decide to whom it belongs. I am sorry to say, some have written unkindly in the matter already. A great many have tried for the prize who have not taken GLEANINGS in years past, and have therefore wasted time and money in going over old experiments. Friend Harrison's idea of making a machine like a book, dipping only the inside plate, while the covers are folded back, has been given a great many times. Two or three different parties have succeeded in making very fair fdn. in small pieces by pouring the melted wax into a plaster-of-paris mold. By heating the mold up to about 150°, the wax will run into a space almost as thin as natural comb, but the whole machine must be cooled before the fdn. can be taken out, and this process soon destroys the plaster cast. These people naturally thought metal would work as well, but you can not saturate metal with water, as you do plaster, and the heating will therefore cause the wax to stick fast to it.

Sheets of soft wax with holes punched at the right distance apart will be readily used by the bees, and if the walls are not compressed as in our usual fdn., there will be little or no sagging. The editor of the *British Bee Journal* has said considerable of late about making rolls for this purpose, by driving round-headed nails into wooden rollers. This was suggested and tried several years ago in our country, but we found it difficult to get nails or tacks all of one size, and to drive them with sufficient accuracy, although we did enough to demonstrate that the bees would use it. The fdn. known as the Dunham, because the mills are made by Mrs. Frances Dunham, of De Pere, Wis., are much on this plan. Below we give an engraving of the machine.



DUNHAM'S FOUNDATION MACHINE.

Our readers may remember her as the one who devised the Dunham feeder, for which I paid her \$25.00, some years ago. She has, without doubt, the credit of making the prettiest-looking machine in print at least, of any in the market. Here is the letter

she wrote in answer to my request for the machine.

I have received your card, requesting an electrotype of my fdn. machine, and I send you one in good faith. I can truly say that I have met with nothing but kindness from the bee-keeping brotherhood.

FRANCES DUNHAM.

De Pere, Wis., March 15, 1880.

As the fdn. made by this machine does not sag, or at least but slightly, the question comes up, why not use it and dispense with wired frames? The first mill we ever made, the one Mr. Perrine carried to Chicago, was made on this plan; i. e., having the walls come up so as to be level on top; but we did not make any more so, because of the expense of the wax. Mr. Perrine soon altered the mill, I presume for the same reason. Which is cheaper, wax or wires? The wired combs are certainly most durable when it comes to shipping bees, and this question, like many others, seems destined to be settled by the one of supply and demand. Our friend Given, whose machine was illustrated in Feb. No., has succeeded in getting it to produce most beautiful fdn. in wired frames, and with so little expenditure of wax, that he now offers wired L. frames, filled with fdn., for 13½ c. each, by the hundred. Our price, as you know, is 14 c. for metal-cornered frames. As all-wood frames are 2 c. less, we are already down to 13 c. Now, can anybody furnish frames of Dunham fdn. that will not sag, for a like sum? Another thing: is this excess of wax worked up into comb, with thin base, so that a frame of Dunham comb is worth more, because the bees get along faster with it? It will be hard to send filled frames of any fdn., not containing wire, safely by freight or express. It is also quite a problem to get the frames wired, and have it done cheaply. I presume we shall have to set women and children at it, at so much per hundred. You see we have quite a number of problems to work out in this matter, my friends. Those who are going to "run" the wax right into molds containing the wired frames will have to make haste and get them into market. This latter plan will make the best fdn. for the bees, and will likely be the cheapest plan when it is worked out. I will tell you all I know of it every month, but I can not well write long letters about it meantime.

FOUNDATION WITH SQUARE CELLS.

The bees finish up square fdn. so that you can not tell it certainly, only by holding it up between you and the light. The queen uses it as readily as any, and the bees will work quicker on a dipped sheet than on a pressed one, because it is more porous, I presume. But I did not succeed in dipping and pressing large sheets; the shrinkage cracks them, unless you make them too thick to use. I was in hopes some one would make a roll machine. It could be cheaply made, for the creases in the rolls, to make the sides of the cells, could be made on the lathe. I shall make a set this spring, and will make them of type metal. The one I have is made of that, and is hard enough, and, if the first trial don't suit me, I can melt them over and return the metal.

JOHN F. LAFFERTY.

Martinsville, Clark Co., Ill., Feb. 16, 1880.

I sent you, a day or two ago, a piece of comb made from square, flat cells; also a piece or two of the fdn. The comb was raised in cool weather, near the last of harvest, and is not as thin as that made earlier and filled with honey.

JOHN B. CASE.

Baptisttown, Hunterdon Co., N. J., March 8, 1880.

[Sure enough, we have, at last, a piece of comb built on fdn. divided off into squares. At first sight, the comb looks like any other; but when you come right down to it, it is not. The bees, by a very ingenious plan got up with much study, it would seem, have made cells almost 6-sided at the top, but with a base pretty nearly square. More wax is used than where they have built the natural comb below, and although it may be easily and cheaply produced, I do not believe it will generally be profitable in the end.]

THE MINNESOTA EARLY-AMBER SUGAR-CANE.

FROM the quantity of seed we are selling, I feel that I can not use space to a better advantage than to make an extract from our 75 cent book, in regard to planting and cultivation.

Cultivate crops in rotation, following a cane crop after corn, and the corn after meadow or sod. Thus, in the winter, spread from sixteen to twenty wagon-loads of barn-yard manure per acre on the sod, and plow with three horses, nine inches deep. Cut and shock the corn, and expect a yield of 75 or more bushels per acre. Let no animals roam over the field to tramp it, and in early spring plow so deep that there will be twelve inches of loose soil. The rotten sod, with the manure, makes the soil mellow as an ash heap, and is the best possible condition that I know how to prepare a field for corn. Now level the field with a drag made of six rails, woven together with two trace-chains at about three feet from the ends of the rails. This does not pack the ground as does a roller. Then plant the seed with a drill, dropping about six seeds to the foot, and in rows three and one-half feet apart, the drill doing the work of furrowing, dropping, and covering. By the time the seed is well sprouted, go over the field again with the drag; and just about the time the first plants are appearing, drag the rails across the previous dragging. Now we have a fresh, clean, mellow field for the plants to emerge into daylight. As soon as the row of plants can be traced with the eye, with a one-horse plow, with a fender, to keep the dirt from the plants, plow as close to the rows as possible; and one with a steel rake can clear the plants and keep up with the plow. By the time the plants are a finger's length high, scrape the rows with sharp hoes, and thin the plants to about three to the foot. If this work is thoroughly done, then going over the field about three times, twice in a row each time, with a double-shovel or cultivator, to be completed by the time the cane is four feet high, will be sufficient cultivation. Thus prepared and cultivated, I expect a yield of from 165 to 185 gallons of refined syrup, of a density of 42 deg. Beaume.

The next most successful way to prepare a field for cane, is to let the aftermath of a clover field remain through the fall and winter untouched until about the tenth of May. By that time the young clover will be well up. Then turn under deeply. Subsoiling would be beneficial in most soils, especially where land is not under-drained. So might irrigation be capital, but only the few can command it. Soaking the seed and rolling in plaster may be advantageous if conditions be right at the time of and after planting. An old clay field with all the organic compounds (the nitrogen, oxygen, carbon, etc.) so nearly worn and washed out that cane will but feebly or barely grow upon it, will yield the clearest and the finest fruity-flavored syrup, but the quantity may not pay for cultivation. On the other hand, a field in good heart, freely and freshly manured from the hog-pens and horse-stables, might give an enormous yield of syrup, but of a quality that would be unfit for the table.

The articles on sorghum in the late numbers of GLEANINGS, coming from all parts of the country,

are very interesting. For my part, I should like to see the sorghum department installed in GLEANINGS. Leading growers and manufacturers would furnish interesting matter on the production of the cane, and the manufacture of syrup. I think that the manufacture of cane syrup and the keeping of bees work well together, for the main part of your work with the bees is over when cane is ready to work. In regard to the bees interfering with cane working, I would state that my apiary and evaporator are not more than twelve rods apart, and the bees do not come around when there is any honey in the fields for them to gather. It is necessary to have your evaporator in a building, for you can not make good syrup when the wind blows on the pan. The windows, ventilators, etc., may have screens, which will keep bees away from the pan. Juice-tanks and filters may also be covered without much trouble. I have noticed that the bees worked freely on the bagasse, and I do not think that they get anything around a mill that is hurtful to them. My experience with sorghum for bee-feed has been favorable. I consider a good article as good for bees as coffee-sugar syrup. Where there is free acid in the syrup, it should be neutralized with soda; the bees will then take it more readily. We are going to make sugar from the amber cane in sufficient quantity to supply home demand, before many years. Any questions pertaining to mills, pans, culture, or manufacture, will receive prompt attention where stamp is enclosed.

W. P. CLEMENT.

Monticello, Wis., March 15., 1880.

FEEDING SORGHUM TO BEES. SEE P. 105, MARCH NO.

The 200 gal. of sorghum fed in 1864 was of very inferior quality, unsalable in the market. We had no white clover here at that time, and June was our starvation month. I had several starved colonies with dried, stinking larvae in cells. I commenced feeding warm sorghum water, in long shallow troughs, with corn-cob floaters for the bees to "sit on." Honey water had been thrown over corn cobs, to attract the bees. Having selected a stock out of stores and semi-dead, I poured warm honey water over the mass and kept them as an index to the apiary. Brood soon appeared, and I fed just enough, in the open air, to have sorghum water in this hive about all the time. I had that season 250 colonies in my apiary, and fed daily about 15 gal. diluted sorghum in June, or up to honey season. We fed 2 barrels of Davenport grape sugar in 1878, and, while we are not able to give a qualitative analysis of the two articles in question, we feel certain that sorghum is as good as grape sugar. We have been feeding sorghum on the wing for several years. We would not feed it in the fall; better feed it in the spring, and you may not need it in the fall. We do not think our bees expelled any of the water on the wing between troughs and hive; *everything kept dry*. When fed very thin, it was thin in the hive.

JESSE OREN.

P. S.—We plant 7 acres early amber this season.
La Porte City, Iowa, March 11, 1880.

LOCATING (?) AN APIARY.

YOU see, Mr. Merrybanks' neighbor thought *he* would keep bees too; and, in spite of Mr. M.'s remonstrances, he would set them up on a bench leaned against the hog-pen.



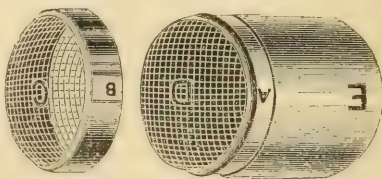
MR. MERRYBANKS' NEIGHBOR.

The tragic end of his neighbor's apiary may, we hope, prove a solemn warning to all

the A B C class against locating the apiary next to, or anywhere in the immediate vicinity of, the hog-pen.*

QUEENS BY MAIL.

A GREAT variety of cages have been sent in for our inspection, and we have made some experiments in sending queens, during the month of March, but so many of them have been failures, that I have little faith in being able to send queens long distances by mail, unless we can have our vial of water in the cage, as well as the candy. During warmer weather, say in May and June, freshly prepared, soft candy will probably do for short distances. Below we give you one of the cages Prof. Cook took with him to Washington.



HARRIS' MAILING QUEEN CAGE.

The cage is very pretty, very neat and convenient, but from the experience we have had in mailing, I should say it would be smashed and punched all to pieces, every now and then. It seems almost impossible to realize the amount of strength that is needed to stand all that goods by mail *may* be subject to. Friend Nellis proposes to use the bottle of water, but Prof. Cook thinks it will only result in our being excluded again. At present I have nothing further to offer than what I gave last month, and am awaiting developments.

The cover to this cage (there are two) is to be used for caging the queen on the comb. Friend H. writes in regard to it:

In GLEANINGS for March, p. 132, you say your experience with a cage to be attached to the comb has not been satisfactory. I think if you settle these cages in to the center of the comb, you will have no trouble. I have used them for a year past, and have been *uniformly successful*. I claim to be one of your A B C scholars.

J. L. HARRIS.

Wheeler, Ind., March 16, 1880.

CIRCULARS AND PRICE LISTS OF BEE KEEPER'S SUPPLIES RECEIVED DURING THE PAST MONTH.

THE FOLLOWING ARE ON A POSTAL CARD.

Jas. A. Nelson, P. O. Box 83, Wyandott, Kansas.

SINGLE-LEAF CIRCULARS.

C. E. Wright & Co., Beaver Dam, Wis.

TWO-LEAF CIRCULARS.

S. Valentine, Double Pipe Creek, Carroll Co., Md.;

H. H. Brown, Light Street, Columbia Co., Penn.;

Chas. Dadant & Son, Hamilton, Hancock Co., Ill.;

J. Beam Wingerd, Jackson Hall, Franklin Co., Penn.

FOUR-LEAF CIRCULARS.

Chas. Olm, Fond du Lac, Wis.;

E. W. Hale, Wirt Co. H., W. Va.

CIRCULARS OF 12 TO 40 PAGES.

L. C. Root and Brother, Mohawk, Herkimer Co., N. Y.;

Chas. Muth, 976, Central Avenue, Cincinnati, O.;

Lewis & Parks, Watertown, Wis.;

D. S. Guin, Hoopes-town, Ill.;

Dr. J. P. H. Brown, Augusta, Ga.

* Our artist has been sick this month, and could not make his accustomed number of pictures. As he worked very hard and a great while on the "hog-pen tragedy," we hope you will look at it often, and ponder well the moral.

Humbugs & Swindles.

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

MRS. COTTON.

NOTWITHSTANDING the caution in the February number, it seems that several persons have sent the \$4.00 for the wonderful instructions. One friend said he knew a man that had them, but that he was so very choice of the valuable document he could not risk it in the mails, unless we sent the money to pay for registering. What do you suppose we received? Why, just the simple leaf I described, and from which I extracted the "bee-feed" recipe, given in our last October number. I sent it back, inquiring where the "elaborate drawings" made by "skillful artists," etc., were. Here is his reply:

As yet, nothing else has been sent by Mrs. Cotton, that I know of, except a model of the hive (about eight inches square). None of the parties that have sent to her, so far as I know, have any engravings or illustrations.

E. C. NEWELL.

Boston, Mass., Feb. 26, 1880.

MRS. COTTON.

Not long since, I was in the office of the Windsor Journal, Windsor, Vt., and, on relating my transaction with Mrs. Cotton to Mr. Franklin Butler, the editor of that paper, he told me he had been bit by her—that she sent her advertisement to be inserted 4 months, but sent no pay. After inserting it a few weeks, he came to the conclusion she was swindling him, and he "took it out,"—sent her his bill, which amounted to \$2.50, but received no answer. Mrs. Cotton had the mulish impudence to send Dr. P. B. Parker, Bartonville, Vt., another special circular, saying that she would continue to send her "sample hives and printed directions," etc., for \$4.00, up to the first of Oct., after which she should resume her old prices, \$6.00.

A. P. FLETCHER.

Reading, Windsor Co., Vt., Jan. 18, 1880.

MITCHELL.

It seems that Mitchell has decided to keep on with his black-mailing business, for he has issued a pile of new circulars. Our thanks are due to friend C. T. Smith, O'Fallen, Ill., for promptly mailing us copies as fast as issued. It has been said by some, that Mitchell does not claim all division-boards to be subject to his patent, and it is denied that he has attempted to obtain money from those using chaff cushions. See the following extracts:

We have been shamefully denounced by a certain click or ring as an impositor, a cheat and swindler in every neighborhood; this click have their minions in every neighborhood; their principle stock in trade is that we have no patent, and if we have, that it is not on the division or adjusting boards, and that our hive don't fit our patent at all, that is, if we have one; this is the way they talk, they even threaten to sue our agents for selling rights and obtaining money under false pretenses. These hushbodies have scared many of our agents so bad that they quit canvassing, and the result is that our hive or some principle of it is now being used all over this entire country, by very many thousands of persons who have never purchased a right to use the hive and many of them have went so far as to defy us to sue them.

We have stood all this until forbearance ceases to be a virtue, and we would say to our agents everywhere that you must call on every infringer or report their names and post office address to us so that we can serve a notice upon them; then if they refuse to pay we will put it into the hands of a lawyer. We know of many agents who have allowed everybody to use our hive without buying a right.

Let me say to agents who have not got sand enough in their craw to meet those fellows and demand payment, for nearly all of them are infringers, to say so, and we will find some one who has.

There is scarcely a hive now in use but is made with one or more of our patented features, for instance a hive made with adjusting board or boards without anything tacked on them to make them air tight is our infringement. Any invention in any way similar to ours is an infringement, and in conclusion we would say to our agents don't fail to report to us the name.

It matters not whether the adjusting or division boards are made of wood, tin, gold, silver, chaff, cotton, feathers or any material—no matter what it may be made of—if when set in the hive it is used for the purpose of enlarging or diminishing the size of the hive, for any purpose either in the spring or summer, fall or winter management of bees, if you are using anything of this kind including A. I. Root's chaff cushions, you are an infringer, and each of you are requested to make prompt payment or suffer the consequence.

N. C. MITCHELL.

Indianapolis, Ind., or Kansas City, Mo.

You will notice, my friends, that, through the influence of GLEANINGS, many of his agents have become ashamed of their work, and dropped it, and that he is having hard work to "keep sand in their craws," as he terms it. It seems unaccountable that any one should be so foolish as to hand over money in answer to such threats, but the letters that come daily show there are those who keep doing it over and over, and who imagine a patent possible to cover all adjusting boards and cushions. Why does he not sue me, instead of solitary individuals here and there? In the following sentence, he almost admits he never thought of so doing:

We can say we never brought suit against anyone, and we do hope we will never have occasion to do so.

Had he ended the sentence, "and never thought of doing so," it would have been exactly the truth.

He still rehearses the old story, that he is going to rear 10,000 queens the coming season, and still has money sent him for queens, which money he puts in his pocket, and thus closes the transaction. The letter below is only one of many:

By the way, what have you done with old braggadocio Mitchell? He has been raising 3 queens for about 18 months, one for R. Gohene, one for Dr. Fisher, and one for his old agent, myself, all 3 paid for, over one year ago. I think he is making long nibbled ladies of them, to get the nectar out of the red clover. That is it, surely.

G. A. JACOBS.

Boalsburgh, Center Co., Penn., Mar. 8, 1880.

MITCHELL AGAIN.

I have just received a postal card from the postmaster of Sandusky, Ohio, saying that he paid to Mitchell himself the \$10.00 which I sent him by money order. I would like you to insert in GLEANINGS, in my name, a few words about the character of Mitchell, who receives money but does not send the goods, so that others may be warned of that public thief.

REV. J. TEITEN, Victoria, Texas.

I presume, if the proper steps were taken, he could be stopped from receiving mails at both of the P. O. addresses he gives. I know this is now very extensively done with the great masses of swindlers that have infested our land of late, and all that is necessary, I presume, is to furnish the department with

the facts that have already been given in these pages. It would probably be a kindness to Mitchell, as well as to innocent ones that he is duping continually.

About your hives, I don't know what to do. Mr. Mitchell, from Indianapolis, claims that all persons using the cushion division are infringing on his patent. He has 2 authorized agents at Kelly's Point, a short distance from here. JOSEPH SPOTTS.

Kelly Cross Roads, Union Co., Penn., Mar. 8, 1880.

Show this to those two agents, and tell them you will have them arrested for trying to obtain money under false pretenses, unless they at once stop it. I will furnish you all the documents necessary, including a copy of Mitchell's pretended patent, which has been given from time to time in nearly all of the bee journals. Such agents are but little better than highway robbers, and should not be tolerated a moment in any respectable community. Point them out to all the people round about you.

Can Mitchell prosecute and collect for using his division boards? D. H. & H. L. RUGG.

Tuscarora Valley, Pa., March 16, 1880.

I would like two division boards, in case I can use them without infringing on Mitchell's patent. His agent lives but a short distance from here, and claims I can not use them without purchasing a \$5.00 right of him. IRWIN E. STEVENSON.

Canal Winchester, Franklin Co., O., March 16, 1880.

On one of the last pages of Mitchell's yellow-covered circular, he says it makes no difference if division boards were in use years before he used them, he can legally collect damages all the same. It seems that no one in our land should be found who would listen to such statements, but as these letters show there are, it seems to me we have good grounds for asking the P. O. Department to refuse to deliver any mail to him, as is now being done with the great swindlers of the cities. I will write to Washington to-day, and present the case of both Mitchell and Mrs. Cotton. and, meanwhile, I wish all that have lost money by them would give me a brief statement of the matter. Perhaps we can, in this way, induce them to straighten up old scores, and do business honestly, like other people.

Mitchell's agents are trying to make me pay for using a plain division-board. I don't intend to do so, unless the law compels me. A. A. HARRISON.

McLane, Erie Co., Pa., March 17, 1880.

The "Growlery."

[This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule we will omit names and addresses, to avoid being too personal.]

FOR THE GROWLERY.

FRIEND ROOT:—I have just received GLEANINGS and read the "Growlery," and as you have so much patience with us will you not permit me to "growl" a little at the "growlers?" When I first came into possession of a copy of GLEANINGS, among the first things I noticed was the clubbing list. I thought, "How liberal! Here is a publisher who means to do well by his subscribers. He will send a sample free, and they can take that and secure subscribers enough in a short time to get their

own subscription free. Each one of the subscribers, or any one else, can do the same." The growlers seem to overlook the fact that this is a general offer, and not one made to the favored few. Why did not friend J. spend the same time and mental effort at the state grange last Feb., in securing 10 subscribers to GLEANINGS that he did on that letter? I think from \$2 to \$4 of commission would have changed his views. I think our friends will find it difficult to change the laws of nature and of trade. The one who has a disposition to work and take advantage of opportunities will find the offer to agents liberal, and consider you liberal and just to your subscribers. You seem yourself a little piqued, because agents use the mails instead of their feet, to offer GLEANINGS to the public. You must, of course, be aware that the matter is thus brought to the attention of thousands who would be reached in no other way.

You must also be aware that if agents offered GLEANINGS at the same rate you do, they would only beat the bush for you to catch the bird. All the subscribers would send directly to you. When your friends wish your assistance to increase their business, you demand very properly so much per line, and in return offer all who will help you so much apiece. Where is there anything more just and fair? These "growls" savor of communism. If one man has superior advantages, is it not right that he should use them? and why should those who prefer quietly to take one copy of a paper and stay at home, "growl" because the publisher is willing to give good pay for good work.

There is but a very short step between these demands, and that of setting up a buzz saw and demanding, in the name of fair dealing, that friend Root divide his business with them, saying that he ought not to take advantage of his superior energies advertising facilities to advance his interests alone.

And now, friends, before you write again to the Growlery, just remember, if agents are paid too much, that situation is still open.

Just send for specimen copies of each of the magazines, show them to your friends and see if it does not look better.

H. P. SAYLES.

Hartford, Wis., Mar. 8, 1880.

I guess I won't say anything, friend S., for you fellows just corner me up in a tight place every time. If I'm not very smart, my wife is, and I will just have to ask *her* what to say next.

Ladies' Department.

MY FIRST SEASON AMONG THE BEES.

ABOUT the middle of April, 1879, I had 29 colonies, of which there were 3 pure Italians, 4 nearly pure, 7 blacks, and the rest hybrids. I increased to 50, and Italianized all but those nearly pure. We took about 300 lbs. of extracted, and 200 lbs. of comb honey. The colonies seemed strong and well prepared for winter; 50 were packed with chaff on their summer stands, and 2 were put in the cellar. We have an observing hive, which stands in our bay window during the summer, and is a source of much pleasure to ourselves and others, while watching the various changes and developments inside. I reared several queens in it during the season.

CARING FOR STRAY SWARMS.

I caught 2 stray swarms of black bees that were passing through our village, and Italianized them.

MICE: LOOK OUT FOR THEM.

To this date all our colonies are doing well, except 3 which were nearly suffocated by the mice working in the chaff packing so as to obstruct entrances. They had eggs and larvae when liberated; one perished, the others I think will survive.

WOOD SEPARATORS.

How generally, or to what extent, are wooden separators used? Do they seem to be less objectionable to the bees than tin? How thick should they be made, if used?

WOOD FOR CHAFF DIVISION BOARDS.

Will the thin stuff, such as is used for picture backing, answer for chaff division boards? Would not the rough unplanned surface be an insuperable objection?

RAPE.

This plant did nicely; we had two crops on the same ground, the last being self sown. It was not molested by any insect, but the bees worked on it from daylight until dark, and even while raining sometimes. The frosts do not injure it, so the bees can work on it long after other bloom is gone.

MRS. D. C. SPENCER.

Augusta, Wis., March 9, 1880.

Thanks for your items of experience, my friend. One of my first points in making the chaff hive, was to arrange it so that no mouse could ever, by any possibility, gain an entrance. The size of the entrance cuts them off, and if the bottom-boards ever get decayed, they should be removed in time, and new ones supplied. I believe wood for separators has never been used very much. The objections are the extra room they must occupy unless they are so thin as to be very liable to injury, and that the bees are much more likely to attach their combs to wood than to tin. The boards you mention for chaff division boards do nicely, and there is no objection to the rough surface, unless it is that the bees might be more likely to attach combs to them than if they were smooth. I am very glad to know that rape can be made to succeed, for I am sure, from the few stalks we have raised, that it will be a very valuable plant.

Boys' Department.

I AM only a boy of 17 as yet, but think a great deal of bees. I have kept bees from 2 to 3 years, and am studying and practicing all the time. I have transferred them from the old box hives into Langstroth's, and if ever there is a job to be done in the line of bees, I am sure to be there.

FREDRICK HOLTKE.

Carlstadt, Bergen Co., N. J., Jan. 29, 1880.

That is right, my young friend. Be on hand every time, when there is something to be learned, and have both eyes wide open, and it will not be long before they will begin to send for you to do such work, and who knows but you may get to be known as the "boss bee boy" of the neighborhood, with all the bee work on your hands you can do, before you are 21 years old.

BOYS KEEPING BEES.

I thought I would try to tell something about keeping bees in our state. I am a boy 16 years old, and my brother is 20. We are in partnership, and have 14 hives of bees, in good condition.

The past winter has been very mild, so that bees could fly almost every week. Bees have been working on maple for sometime, and have been carrying in pollen very freely.

SELLING EXTRACTED HONEY.

From all accounts in GLEANINGS, nearly all the bee-keepers get more for their comb honey than they do for their extracted; but we can get more for our extracted. We sell it in yeast-powder bottles, which we can buy for 4c. to 6c. per doz. It does not cost much to wash them, and we sell them full of honey for 10 to 15c. a piece. The bottles hold about 10oz. We get labels printed for them, with name and address for \$1.50 per thousand. This would make the honey average about 20c. per pound. We sell them by the doz. for 90c. to \$1.00.

A 50C. EXTRACTOR.

Harry Black, a neighboring bee-keeper, wanted a honey extractor last summer, so we all set to thinking. He bought a syrup barrel for 50c., and we made a comb basket for it (for we help each other all we can); then we went up there one night, sawed the barrel off at the right height, and put the comb basket in. So his extractor only cost him 50c. How is that for A B C scholars, Mr. Root?

INTRODUCING QUEENS WITHOUT A CAGE.

We introduce all of our queens without a cage. We first drive some of the bees into a box, and find the old queen; then daub a little honey on the new one with a feather, and let her run into the box with the bees; then smoke them with a little tobacco smoke, to give them the same scent (we have a smoker made of wire cloth especially for tobacco), and also smoke the bees in the hive a little with tobacco; then put the bees in the hive, and they are all right. The tobacco will make the bees a little giddy at first, but in a half hour they will be working as if nothing had happened.

We never lost but one queen in introducing this way, and that was when the bees commenced robbing, while we were introducing her. What do you think of this way of introducing, Mr. Root?

CHARLES D. DUVAL.

Spencerville, Montg. Co., Ind., Mar. 8, 1880.

Well done, boys,—well done, indeed! Why, if you keep on that way, you will leave us old fellows all in the shade, in a little while. Your way of selling extracted honey is the thing exactly, and I have often thought that if the old bottles that lie about and disfigure the premises were all gathered up and washed, they might do a deal of good. If you had counted your time, boys, I am inclined to think your home-made extractor would have cost a little more than 50c. Your plan of introducing queens is essentially the one friend Alley has given. I confess I am a little afraid of the tobacco, for it so often happens that boys of your age get to smoking or chewing it when it lies around handy. I believe the plan works usually, but I think you will find cross hybrids that will pitch into the queen after they "wake up," as viciously as if they had never been choked and sickened with tobacco.

GRAPE SUGAR MORALLY.

I HAVE noticed for a long time that you are a vehement advocate of grape sugar, and you seem to consider its manufacture perfectly right, legal, and morally. I grant the legality of the thing; but the morality, I question. Don't you know that the chief end of grape sugar is to assist in brewing? and do you consider brewing right because the law allows it? It seems to me that its manufacture ought to be discouraged, even if it is a good article for feeding bees, for certainly something else will answer as well.

F. W. COMINGS.

East Berkshire, Franklin Co., Vt., March 5, 1880.

I think we nearly agree, friend C., when we look at the matter alike. Would you discourage the planting of orchards, because so much intemperance is caused by cider-drinking? Perhaps it will be best; really, I am not quite decided in the matter. But shall we not consider about raising so much corn, when it is so largely used by distillers? Corn may be made into whisky or grape sugar, or it may be made into corn bread for food. The first and last we agree on, but I do not think we quite do on the sugar. I am sorry it is used for beer, just as I am sorry that cane sugar was used for the same purpose before they found this cheaper article. But if grape sugar is so great a saving to the brewers, may it not also be for other purposes? When we can get maple sugar, sorghum, or anything else that will be a safe feed for bees, at even as good economy as this, I shall assuredly adopt it; but during the past winter, so far as I am able to learn, beekeepers have saved hundreds of dollars by using this instead of the more expensive cane sugar. As a general thing, those who bought it in the start are steady consumers of it, year after year, whenever the bees need help in that way. The charge that it was used to adulterate cane sugar has been dropped, I believe, by all, and we might say almost the same for its use to adulterate honey. That it is used for adulterating syrups, I have no doubt; but the recipe I gave for a home-made syrup, last month, will enable us to drive this speculation out, if we post ourselves intelligently. I have sold many tons of grape sugar, but I have sold it under its right name, and have done all I could to make everybody so fully acquainted with it that frauds with it will be impossible. Friend Demarree objects to the name, thinking it may mislead; therefore I have called it, in the price-list, grape or corn sugar.

INTRODUCING QUEENS.

FRIEND DOOLITTLE'S EXPERIENCE AND CONCLUSIONS IN THE MATTER.

IN this article I wish to give a bit of my experience as regards introducing queens, rather than to point out any particular method for so doing. In a practice of ten years, many things have come under my observation which have been interesting, and have thrown light on an operation which has many times proven, not only to myself but to multitudes of others, to be not always a successful one. Among all the methods given for introducing queens, not one has proven reliable in all seasons of the year, and in the hands of all desiring to accom-

plish this object. I am not going to say that a method may not be devised which will always be a success with the thousands who introduce queens, for I believe such may be the case, and that we may yet perfect a plan by which the novice in the business may be sure of meeting with success. To this end I have been led to write this article. Heretofore the loss of the queen has been charged mainly to the bees rather than to the queen, parties even being so rash and provoked as to crush a ball of bees inclosing a queen under their feet, when in reality the queen was the one to blame. Many queens would never be molested in the least by the bees if they would behave themselves as they did in the hive they were formerly in; and we venture the prediction, that when we can arrive at a plan that will always place the queen with strange bees in the same quiet condition she was in while in the hive in which she was reared, we shall be successful every time.

To substantiate this position I will give some experience in the matter. In 1877, I had a queen which began failing the first of July. Wishing to replace her I went to a nucleus and took out their queen, which had been laying about a week; then going to the stock having the failing queen, I removed her and placed this young queen on the comb instead of the old one. She immediately commenced to peep, just as a virgin queen does when there are rivals in the cells in a hive calculating to send out an after-swarm. To this the bees paid no attention, but came up to her with the intention of feeding her; but instead of taking the food offered by them, she put out a foot and struck at them, or laid hold of their heads with her feet, and continued peeping. She passed around among the bees, peeping at intervals, for about five minutes, I should judge, I watching all the while, when she came to a young bee just hatched, all white and fuzzy. She immediately uttered a short peep and clinched the little fellow, and stung it so it curled up and died in an instant. At this the bees became exasperated, and showed signs of hostility for the first time. They began to lay hold of the queen. With a little smoke I dispersed them, and still continued to watch. In about fifteen minutes she stung and killed half a dozen of these young bees, and was seized each time by the bees, but I dispersed them with smoke. At all other times they were ready to feed her and treat her as they did their old queen. Once or twice she took food of them, but, as a rule, struck at them with her feet. I closed the hive and left them. Upon looking the next day, I found queen-cells started, and supposed her dead; but in twelve days they cast a swarm, and, lo! there was my queen running around in front of the hive, for her wings were clipped. I opened the hive, but found no eggs or brood (except sealed brood), cut off the queen-cells and returned the bees, upon which she went to laying and made a fine queen. I have had several such cases since, although not quite so persistent.

Again, I have had queens which the bees treated as they would their own queen, but they would not stay in the hive at all. They would run out at the entrance, often followed by a few anxious bees, which would feed them and keep them alive. I had one out thus till I had put in another queen, and she had begun to lay when I found the first under the bottom-board. Thus many facts in my experience go to prove that the queen has more to do with the loss sustained in introducing than the bees.

Well, if this is so, how can we remedy it? The

plan I have latterly adopted is this: Make a cage such as Novice described several years ago for caging queen-cells, only have it at least two inches square. Remove the queen you wish to supersede, shake the bees from the comb, and place your queen on it where there is some honey, and then place the cage over her, pressing the edges of the wire cloth into the comb till the cage does not project beyond the surface of the comb more than half an inch. Hang the comb in the hive, leaving $\frac{1}{4}$ of an inch between it and its fellows, so the bees can go all around it. In a few hours, open the hive; and, if the queen is reconciled to the strange colony, she will be quiet, and the bees quiet on the cage, when you can lift the cage, and she will go quietly among the bees, as she would have done in her own hive. If, on the contrary, she is running around, and the bees are biting at the cage, don't let her out till such conditions cease to exist. The above are the conclusions I have arrived at, which may not be entirely correct, but I think are mainly so.

G. M. DOOLITTLE.

Borodino, N. Y., March, 1880.

I agree with your premises, in the main, friend D., that the queen is often more to blame than the bees, when she is not well received, but I can hardly accept your remedy, for I do not see how its conditions differ materially from those of an ordinary cage for introducing. I have experimented with, and described in print, such cages, for more than ten years past; but, after finding a number of them dug out of the comb, and the queen killed, I gave it up. Putting a similar cage on the opposite side of the comb held her, of course, but it did not prevent the bees from cutting the comb and marring it badly, in their vehement attempts to get rid of the obnoxious foreign body inserted in the midst of their brood-nest. It is true, the plan is having quite a revival, and many times succeeds nicely, but so does letting the queen go without any introduction at all often succeed.

OUR OWN APIARY AND HONEY FARM.

CHAFF FOR KEEPING THE BEES FROM GETTING ABOVE THE MATS.

ON page 62 I spoke of putting a little loose chaff over the mats and enameled sheets, that the bees might by no possibility get above and be chilled while trying to get through the ventilating holes in the covers of the chaff hives. Now, after having handled the hives prepared in this way, I am so well pleased with it that I shall certainly adopt it permanently. I do not like to be obliged to get smoke every time I wish to open a hive. With the loose chaff, it is an easy matter to scrape it all up into the corners of the hive when you wish to look in. If some of the chaff gets down on the bees, it does no harm; and, when you are putting the mat down, if they should keep poking through the last crack (as they sometimes do), just sprinkle some chaff right on them, right into their eyes, for that matter, and they will quickly back out and go down on the combs. You can shut them down without hurting them in the least, and no bee can ever push through afterward.

Fix your chaff, press down the cushion, and then they are all snug and warm for the next frosty night. Our bees in chaff hives thus prepared have pleased me the most of any bees I ever before had the care of in winter. A peck of light chaff under the cushion will not be at all in the way, and then there are no open cracks and crevices. I rather think we shall let the chaff and cushions remain until surplus receptacles are to be put on. The bees in the house apiary not prepared thus have not wintered nearly as well.

CHAFF HIVES VS. TENEMENT HIVES AND HOUSE APIARIES.

Mar. 6.—Of course we sold queens in February, as we have done all winter, and when one was wanted we chose it, as far as possible, from some of the weakest colonies, and then united the bees with another. The result of this has been to nearly depopulate the lower story of the house apiary. It seems as if house apiaries and tenement hives are better for severe winters than mild ones. The reason is, that a single chaff hive will be quickly warmed up all through, because the sun and wind can strike it on all sides, while the compound structures keep cold and damp for a much longer period. All things considered, it seems as if the chaff hives were to meet all requirements better than anything else, and, since reports have so much favored them for summer use as well as winter, I think it behooves us to consider well, if it will not be best to have a less number of stocks, and have them better cared for.

WEAK COLONIES FOR WINTER.

I have told you how I came to undertake again to carry weak colonies through,—to save the imported queens our friends across the water sent us so late last fall. Well, I came through much better than I had any right to expect, and, although but very few have been lost outright, we have at present so many weak colonies that I am more determined than ever before to attempt to winter only strong stocks, and perhaps I would better say powerful stocks. I know there are many who say they would not have colonies for winter over strong, if they could; and our neighbor H., who is getting to be pretty good authority, said, on looking at one of my colonies in the fall,—

"There! I would not give a cent to have any more bees in a colony for winter than you have there."

I told him at the time, that I should prefer twice as many. Well, I think just so yet. I do not know that I ever saw too many bees in any hive, at any time of year, to suit my ideas; of course, I mean as the progeny of a single queen.

THE SIMPSON HONEY-PLANTS IN MARCH.

You know we planted 1000 roots of the above, last fall. Mr. Gray and myself were very much pleased indeed to find this spring that almost every root had long sprouts on it, and that the plants which bore so many blossoms last season are sending out most beautiful, strong shoots, giving promise of still greater things this year.

OUR GREENHOUSE.

For the purpose of getting an abundant

supply of both this and the spider plant, we have just built a very pretty little greenhouse, adjoining our boiler-room, and our engineer, who is happily a lover of plants and gardening, is taking charge of it while running his engine. As our engine and boiler have a capacity of fifty horse-power, while the power we use is perhaps less than half that, he has considerable spare time. The size of the house is 12 x 24, and I do not know that I ever invested \$25.00 in anything that has given me as much pleasure as this little structure. Our Simpson plants are as fresh and green as one could desire; and as we thought best to try a few vegetables, while we had room, we have lettuce, radishes, cabbage, etc., peeping forth from the ground, and growing in a way that is a novelty to me at least. No matter how fierce and cold the blast outside, or how keen the frost at night, the inmates of this charmed enclosure seem to have nothing to do but to be happy and grow. The engineer thinks he can raise cabbage-plants alone, sufficient to pretty nearly pay all expense of the structure. Why do not those who are idling away their time and begging for something to do, take up some avocation like this and bring from the soil enough to feel that they are at least doing a little better than nothing?

SENDING MONEY BY MAIL, UNREGISTERED.

MOST of you know of our troubles last year, and of the young man who is now serving his time out in the penitentiary, for having robbed us of our money. Well, there is more trouble this season, though not to the same extent as last season. Worse than all, since it has got out that I have been in the habit of sending the goods (because I felt sorry for our friends who had honestly sent money and been disappointed in not getting their things) asking them to send us half price for the same, certain unscrupulous parties have been claiming that they had sent money when they had not, and, of course, after getting the goods have sent nothing. In view of this, I am obliged finally to say I can not be responsible for any money sent except by draft, P. O. order, or register. It is with a feeling of sadness and sorrow I say this, for I know many of you who are innocent must suffer with the guilty. Our mails now amount to over 100 letters in a day, and, as the mail clerks have learned that letters addressed to me almost always contain money, it is putting temptation before them, which we should not do, if it can be avoided. The following kind letter comes from the superintendent of the department, Captain Henry. I give it here, that you may all see our reasons for asking you to help us.

Friend Root:—The Post Office Department advises everybody sending money by mail to register or send by M. O. Several thousand men are employed in the postal service, nearly all young men, and experience has demonstrated the fact that it is wise not to tempt them, as now and then one falls, and the punishment falls most heavily on a wife, child, or mother. We will do all we can to guard the mails, and find out the guilty, but it often takes

months and years to do it. Can you not advise your customers to send by register or money order? Another point: people are tempted to claim that they sent money for the purpose of getting goods, in order that they may get goods for nothing. Several years ago, Mr. Vick advertised that all sums under \$1.50 could be sent at his risk, and that persons remitting and failing to get seeds could notify him of the fact and he would fill the order. In less than three months, he had several thousand alleged losses of less than \$1.50 each.

Very respectfully, C. E. HENRY,
Special agent P. O. D.

Cleveland, O., March 15, 1880.

I presume you all see the force of this. I know it will be some trouble and expense to register or get a money order for every small amount, but by having your neighbors club with you, you can save the expense of the order, as well as the freight on goods, or you can make a deposit of a small amount if you desire, and then order things as you need them by postal card. It is a great saving in many ways, to put your orders all together, as nearly as you can. Postage stamps are seldom taken, and we have several times had letters opened, the money taken out, and the stamps left. On this account, I would use stamps for amounts less than a dollar. To help you all I can, I have made arrangements so that I can use Canada stamps, and I presume I can manage to use also stamps from any foreign country. I presume our losses, at present, are about one letter in every two hundred. Therefore, if you have a mind to take your chances, you can send money loose if you choose, but if it is lost, bear in mind that after this you must send the whole amount again. For the reasons given above, I dare not offer any longer to stand even half of it. I have sometimes thought it might be well to publish the names of those who have had goods sent them at half price, and after they have got the goods refuse to pay even a copper. What do the friends think about it? There are quite a number, too, that have very generously insisted on paying the whole amount, saying as the money was sent "loose" it was their fault entirely, and not mine. I want to thank this latter class, for their acts have given me a new faith in humanity. At the very low prices at which I have been selling many of the counter goods, there has absolutely been no margin for me to take any of the chances of losses. It gives rare pleasure, my friends, to be able to astonish you in price and quality, in the things you send to me for, and I feel sure you are glad to help me in so doing; are you not? May God in his mercy open the eyes of those poor, blind brothers, who have been taking our hard earnings, with this awful, unscrupulous disregard of the rights and just dues of their fellow men.

MORE "RED CLOVER QUEENS."

MR. EDITOR:—I can't stand around looking on any longer, without saying something about my queens that have a knack of extracting honey from red clover. I have 5 colonies of pure Italian bees that secured over 100 lbs. of honey each

the past season, while 43 other colonies, mostly blacks with a few hybrids, secured little or no surplus honey. The season being remarkably dry, but few of my neighboring bee-keepers for miles around, secured enough honey to carry them through the winter.

These 5 colonies possess queens that were reared in 1878, from an imported tested queen purchased the same season from Chas. Dadant & Son. They, as well as their mother, are of a dark orange color.

In fact all the queens that I have reared from the imported queen are two shades darker than those reared from her daughters, while they all mate with the same stock of drones, as there are no Italian bees nearer to me than 4 miles.

No. 54 carried off the palm, as they attended strictly "to their knitting," and furnished 116, 4¼ full sections, and 13 partly filled, besides securing ample stores for winter, and furnishing 5 frames early in the season for weaker colonies. The queen of this colony is leather colored, and has 3 or 4 spots on top of her abdomen; she is the only spotted queen I possess. The other 4 queens each secured from 20 to 27 frames of honey for the extractor. These 4 colonies were supplied with 10 frames of fdn. each, and, when these were nearly sealed over, they were raised and another hive with 10 frames placed between. I use the Simplicity hive, and can of course tier up as high as needed.

I had 3 other Italian colonies that produced from 40 to 60 lbs., but very few of the blacks secured enough to live on. I live in the midst of a fertile prairie; our staples are corn and hogs; and to raise hogs cheaply and successfully, we must have clover pasture. I should judge that there was at least 1000 acres of red clover within 4 miles of me. At any time during the latter part of the season, I could stand in my clover fields (I have 80 acres) and count from 8 to 10 yellow fellows within a very few minutes, but never a black could I see. True, we have considerable white clover in our vicinity, but it produced but little honey. I have a brother apiarist living 4½ miles from me, who keeps about the same number of bees, all Italians but of a different strain, who secured but little surplus honey, no one colony securing over 20 or 30 lbs. Another apiarist living in the opposite direction from the first mentioned also has Italians of still another strain. His bees secured no surplus, having the same resources as my own. This goes to show conclusively, that my bees *can* work on red clover.

As I want to stock my apiary with pure Italians, I intend breeding from my imported queen exclusively, this coming summer. I prune drone comb very closely, and intend that my spotted queen shall furnish most of my drones.

M. H. SNYDER.

Elmwood, Ill., March 15, 1880.

Glad to hear you speak out, friend S.; that is the way to do, of course. And I am glad also to hear that others beside myself are waking up to the fact that some queens are worth more for *honey* than others.

OBITUARY.

It is with sorrowful feelings that I write to inform you of the death of a highly esteemed minister of the gospel, and scientific apiarian. The Rev. Dr. John Van Eaton, pastor of the United Presbyterian Church of York, Livingston Co., N. Y., died of heart

disease, March 5, 1880, in the 63d year of his age. Occupying the same pulpit, and looking to the spiritual welfare of a large congregation for more than a quarter of a century, his was a vigorous, active, useful life, a noble manhood, a triumphant death. A brother minister, who knew him well, remarked, in his funeral eulogy, that he was looked upon by his associates as the ablest member in this presbytery. A deep thinker in theology, his sermons, full of ripe thought, were convincing, interesting, and eloquent. Aside from pastoral duties, apiculture was with him a chosen pursuit. He gave to its improvement the powerful resources of a fertile brain, and, with assistant co-laborers to carry out his ideas by practical experiment, successfully wrought the solution of important problems in advanced apiculture, one being the practical and profitable use of wax foundation for surplus honey, after it had been condemned as unsuitable for such purpose by the N. E. and National Bee-Keepers' Conventions.

Thus are passing away, one by one, those who have done much toward placing bee-keeping in the position it now occupies. Mr. Quimby is at rest; Adam Grimm, and many others whose names were familiar as writers in our bee publications, are no more; Rev. L. L. Langstroth totters in feebleness with one foot in the grave; and now is added to the list the name of our revered friend and adviser, the Rev. Dr. John Van Eaton.

C. R. ISHAM.

Mr. George M. Dale, an honored bee-keeper from Border Plains, Webster Co., Iowa, died here at Santa Ana, on Dec. 30th, of ulceration of the stomach. He had been failing for five years. He leaves a wife and one child. They came here for his health, but too late.

E. GALLUP.

Santa Ana, Los Angeles Co., Cal., Jan. 6, 1880.

The "Smilery."

This department was suggested by one of the clerks, as an opposition to the "Growlery." I think I shall venture to give names in full here.

ACROSTICAL.

LEAN on, shrewd gleaner, busy bee,
Lay under tribute every tree;
Extract the sweets from every flower,
And claim the wide world as thy dower,
Nor man, who nurses first, then shares
In the rich stores the bee prepares,
Need be less active; he should glean
Great bundles for the world unseen,
Should ever bear a heavenward mien.

In life's pursuits, choose wisely; then
No idlers be, but work like men.

Be up and doing is God's rule;
Exert your powers. This life's a school;
Each man's a learner or a fool.

Culture and science, 'neath God's smile,
Unfold their hidden sweets the while,
Like dew-drops at the early dawn,
Till Sol sips nectar from the lawn.
Upward all real culture tends,
Reforms the bad, the good defends,
Exalts, ennobles, and amends.

MRS. H. A. AWREY.

Cottam, Ontario, Canada, Feb. 17, 1880.

HANDSOME BEES OR LOTS OF HONEY.

WHICH ARE WE STRIVING FOR?

FRIEND ROOT:—Do you think beauty of color in queens or bees a criterion by which we may judge of their real worth? I have had a number of queens from different apiarists, some bred from imported, and some from home-bred mothers. Some of these queens were real beauties, large and yellow, and some were quite dark. I used to think beauty a mark of worth, and of purity of stock, and have bred accordingly.

Now permit me to stand up in the class and recite. My experience is, the yellowest and handsomest bees are, as a general rule, not the best honey-gatherers. The largest, yellowest, and handsomest queen I ever saw, I bought nearly two years ago, and paid a big price for her too. The worker progeny of this queen are, like their mother, large and yellow. They show three broader bands than I have ever before seen. Would you like this colony of bees? They are beauties. No; you don't want them; they are actually paupers; and it is not altogether the fault of the queen either. I have built this colony up good and strong with bees and capped brood from other colonies, and, for a while, they would do well, and the queen would deposit an abundance of eggs; but, after a while, when the bees I had given them had died off, this colony would dwindle down until there would be hardly enough left to guard their entrance. What is the matter with these bees? I believe they are indolent, actually lazy. I have had other beautiful "golden Italians" that would store no surplus, while other colonies of a darker strain, no stronger in numbers, would store an abundance.

Some colonies are more industrious than others. Can anyone tell the reason why? I believe this breeding for beauty of color, regardless of other good qualities, will depreciate rather than improve the real worth of the bees.

I have another remarkable colony of bees. The queen is the daughter of an imported mother, and is now nearly three years old. Her bees show the requisite three bands and are of uniform color; but they are a little dark, and don't show the three bands as distinctly as do lighter colored bees. This colony is always strong, and always has abundant stores even in the driest times. They built combs and stored honey which I used to strengthen weak colonies during the drouth of last summer, and gave me two other colonies by artificial swarming, while other colonies, as strong as they, did nothing. This colony gave me 82 lb. of honey in eleven days, while other colonies, equally strong, gave me not half that amount. There is nothing remarkable about the mother of this colony, only she is a little longer and more slender than other queens are. Such queens as this one I shall breed from, be they light or be they dark.

The Italian bee may be improved by careful breeding as well as other stock; but I am of the opinion that there can be but little improvement in our stock by selecting only choice mothers, and allowing their daughters to mate with just any kind of drone they chance to meet.

I bred a few queens last year away from home, and quite away from other bees, and some of the queens equal my expectations. I shall breed all my queens in the same way this year. I will select, to breed from, queens that are very prolific, that produce

bees which show the three bands, that are of uniform color, and superior honey-gatherers and comb-builders. I will select drones to mate with my young queens. The mother of my drones shall possess the same points of excellence that I require of the mother of my queens. My drones shall be well marked. My drones and young queens shall not be of the same blood. I will get some cards of comb containing my select drone brood, take them to my queen-breeding apiary, and let them be hatched there. Last season's experience has proved to my satisfaction that the value of our bees as honey-storers may be greatly improved. Mr. Root, do you not think our bees can be improved by breeding in this way?

Calhoun, Ill., Feb. 17, 1880.

M. J. HARRIS.

I decidedly believe, friend H., in rearing bees for honey, and paying little or no attention to color. If black bees gave more honey than yellow ones, I would assuredly get the blackest stock I could find. Of course, we can afford to give something for gentleness, and such like traits; but few of us, at most, can afford to waste our time in rearing bees simply because of their prettiness. You know I have always been much in favor of having each apiarist test his queens himself. Well, I am more than ever in favor of having each one of you rear and test your own queens now. After having one good Italian queen in his apiary, one can select, every season, the best honey-gathering stock to rear queens from, doing the same with drones, as far as may be. If his neighbor succeeds in getting a strain that beats his own, he can get a queen or two from him, of course, but I doubt about its being necessary to ship queens back and forth clear across the continent so much as we have been doing for a few years back.

FRIEND DOOLITTLE NOT YET IN THE SHADE AFTER ALL.

I WISH you to turn to page 109, March number of GLEANINGS, and then turn to page 263, October No., GLEANINGS for 1877, and see if you did just right in putting "Even Doolittle in the Shade," as the heading of J. W. Eckman's article. If you think you did not, I shall expect amends made in April No.

Borodino, N. Y., Mar. 10, 1880. G. M. DOOLITTLE.

I beg pardon, friend D., for my small-cap heading. It was a random speech, and more in pleasantry than anything else, and I should rather have said, "Doolittle almost in the shade." I was much pleased, as I suppose we all were, to find that Texas had made at least one report that would compare favorably with almost any state in the Union, thus upsetting the growing idea that the South could not equal the North and California. I presume friend E. had not seen your 1877 report, friend D., as he alludes to the one of 1878. The great point to encourage us in all these reports, seems to be that God has, at least in bee-culture, so ordered it that we may feel our chances are pretty nearly equal, no matter where we are located. A bountiful flow of honey may come in York State, or it may come in Texas, or even right at each one of your own homes, my friends, if you are faithful, and ready to take care of it when God does send it.

CONDITIONS ESSENTIAL TO SUCCESSFUL INTRODUCTION OF STRANGE QUEENS.

THE rule is, "Cage the queen for about 48 hours, then carefully look over the combs and cut out all queen cells which may have been started; release the queen from her cage, and all will be well." I have had success in this way, and I have also had failures. To release a queen immediately after removing the queen cells, even though the bees have nursed her for 48 hours, I have found to be attended with much danger to the queen, because the bees have not had time to become aware of the loss of their cells, which they now cherish with about the same zeal as they did their queen which was removed. In this stage of the proceedings, what must one do? Why, close up the hive for a couple of hours, when the bees will become quiet and miss their cells, which will again put them in an emergency essential to their receiving a strange queen. Then quietly release the prisoner, and, if other conditions are favorable she will invariably be received with favor.

The great secret of successful introducing is, first to temper the disposition of bees so they will be in a proper mood, and the introducing of a queen will be attended with little risk, and, to myself, is one of the most pleasing sights to behold. My feelings have been many times so animated as to cause my eyes to moisten with delight on beholding the little fellows standing almost on their heads at first discovering the approach of her majesty, and noticing the gentle vibrations of their tiny wings, the contagious increase of the same, until the whole interior is resonant with that gentle hum recognized only by those who are masters in the work. Why, friend Root, say to your A B C class, when the above conditions are complied with, release your queen, close up the hive, and fear no danger.

G. J. FLANSBURGH.

Bethlehem Center, Albany Co., N. Y., Feb. 16, 1880.

Very good, friend F., but I shall be obliged to say that the above conditions are not *always* to be relied on. We sometimes find colonies that will not accept a queen after all cells are removed, after waiting, after taking away all brood and combs too, and even after taking the hive away as well. There is *no sure* way, that will answer for all cases, and for all colonies.

CONCERNING MOUSE-TRAPS.

BEYOND all controversy, the apiarian and the mouse are enemies the one to the other. The little "varmint" carries rolled up in his skin about as much mischief to the ounce as can be found on the globe. He gets into our hives and disgusts the bees. He tunnels into our chaff cushions. He gnaws our extra combs into crumbs to get the bee-bread they contain. A box of unfilled sections he speedily transforms into a grand hotel, crowded with guests. The dainty little gingerbread-work the apiarian so much delights in,—he thinks no more of chewing it all up than a school girl does of chewing gum. Yet all these counts of the indictment against him are trifling compared with his one great villainy—everything he comes near is defiled forever with his sickening, ineradicable smell. Who can number the precious colonies of bees, newly bived, that have "asked not to stay" simply because of the

unendurable mouse stench of their frames and walls? Who can tell how many stands refused to work in their sections simply because some of the sections had been wet down by mice?

Well, it came about not very long ago, that fresh outrages of these little pests sent the writer excitedly in quest of his mouse trap, and behold, it was *lent*! Seizing the saucer of a flower pot, and a little tin dish, and a bit of string, and some squash seeds, he then and there extemporized a remarkable trap. So remarkable was it that he was moved to embody its principles in some regularly constructed traps, and then to write and tell the boys about it, that they might make some for themselves and—enjoy peace. The weak point of our defenses, hitherto, has been that we don't think to set the trap until the mischief has been done. Traps won't stay set, or, if they do, they stay for "keeps," and become worthless. The new idea is to have a trap that will stay set and baited, and ready to grab, for a year if desired. Let the apiarian, some time during the winter's leisure, make a half-dozen of them. One should be set in each depository of our treasures, waiting to catch the first wandering Queen Dido of a mouse that comes to found a colony, and set up in business as the mother of mischief.

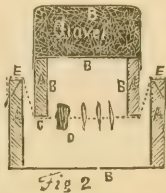
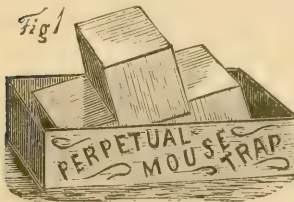
The readiness of mice to nibble off string gives us the means of putting the idea into practical effect. Bait which is near enough to being imperishable, we have in squash seeds and nuts. Just set a diminutive box trap on a horizontal string, in such a way that when the string is bitten off the whole establishment is down over Mr. Mouse's ears, as quick as a flash. String the bait on the string with a darning needle. I have once had seeds taken off without the string's being bitten. A small nut, with the opposite edges rasped off just enough to expose the meat and admit of the needle's being run through, makes a sure thing of it. A nut should be put on whenever a trap is to be left for a long time "on picket duty." A little loose bait sprinkled about helps. To reduce fuss to the minimum, make a lot of strings of bait at once, and have them on hand.

A trap of this sort should be put in every organ that is to be left in mouse-infested rooms. Had our Sunday-school organ been thus defended, we should have been saved a heavy bill for repairs, and much vexation.

An apiarian is supposed to have broad frame stuff and tin and wire nails; so my arrangement of the "Perpetual Trap" is made of these. In brief, it is an outer tray with bottom but no top, an inner tray with top but no bottom, and a little box of gravel fastened to the top of the inner tray to give the desired weight. The outer tray, although not absolutely essential, serves three good purposes. By waxing, it is made tight enough so that the little culprit can be drowned, when caught, by simply pouring in a little water. It also keeps the mouse from standing where the tray might fall on him, and give him a chance to wiggle out. It gives a more convenient attachment for the ends of the string than could readily be had without it. A wire nail or brad is driven diagonally through the top of each side, midway; and a knot at each end of the string is carried over the side of the outer tray and drawn tightly under the projecting point of the nail, thus holding it fast. The length of the string should be such as to hold the trap at just the right angle of elevation. Dimensions may be adapted to the strips of tin the apiarian happens to have on hand. For

outer tray, $7\frac{1}{2} \times 4\frac{1}{2} \times 2$ is a good size, with sides of thin wood, bottom and ends of one strip of tin, punched and nailed on with wire nails. Inner tray should be made the same, except that the wooden sides must be plated with strips of tin, to keep our jail-bird from gnawing out. It may be about $6 \times 3\frac{1}{2} \times 1\frac{1}{2}$ in size. Gravel box may be $3\frac{1}{2} \times 3 \times 2$, with the wood running the other way and tin lapping down over the inner tray and nailed to it. It would be nice to have them painted so they could not rust.

I will send samples to Novice, and he can report, if he chooses, whether they are worth the trouble of making. The subjoined cuts will make all clear.



FRIEND HASTY'S MOUSE-TRAP.

I judge that a larger size would be excellent as a rat trap, although the possibility of its being sprung by mice would make it necessary to look after it often. It wouldn't catch the puppy, nor the chickens, nor the children, nor yet lame the cat. The rat is cunning, "thafe of the world" that he is, but even he can't hold out against the allurements of a free-lunch parlor which, month in and month out, is, as Æneas found the gates of Hades, open night and day.

Richards, Lucas Co., O., Feb. 20, '80. E. E. HASTY.

I entirely agree with you, friend H., in thinking mice about the most disagreeable pest we can have about the apiary, or anywhere else; but I am not sure I shall like your trap so very much more than the time-honored wire, block mouse-trap that can be, or should be for sale in almost every grocery store for a "five-cent nickel." We have one of the traps "sot" with the squash seeds and nuts, but I am almost afraid (?) our boys have caught the mice all off, even out of the seed room and honey house.

CALIFORNIA AS A BEE-KEEPING STATE.

ARTICLE NO. 3.

EDITOR OF GLEANINGS:—Here is one of the perils of California bee-keeping. Many of the bee-ranches are located in narrow canons or gorges in the mountains, and we sometimes have here, in the mountains, in the rainy seasons, what is called a cloud-burst; if a heavy cloud happens to run against a high mountain, the bottom gets knocked out, or it gets tipped over, and then the water is spilled out in a hurry. One of these cloud-bursts took place in Santa Monica Canon, Los Angeles Co., the last of 1879. It damaged Mr. Kilgore's ranch, in bees and hives, to the amount of about \$100. Mr. Cox had his honey house, with 1500 lb. of extracted honey, his bees, cabin, empty hives, and all his effects swept away and entirely destroyed. Mr. Sullivan lost about 40 stands of bees, and a large number of empty hives. It also cleaned out and entirely destroyed a valuable poultry ranch, and a wood ranch, and then partly demolished a bath house on the beach.

Evidences of these cloud-bursts can be seen all over the country. They come down with such irresistible fury that nothing can stand in their way; large live-oaks and sycamores are carried away like mere playthings; and bowlders weighing tons are swept along with terrific force. The stage coach was swept away and one of the horses killed, at Santa Paula Creek, in Ventura Co. The driver had to swim for his life. A house and family were swept away in Santa Barbara Co., and two persons drowned. Those mountain streams sometimes rise to a terrible height in a very few minutes, and they are just as likely to have one of those wash-outs in a dry canon as in a wet one.

They have been praying for rain all over the State, and in some localities they have just a little overdone the thing. Here at Santa Ana, the orange, lime, and lemon are ripening on the trees. Trees are in bloom. Bees are at work on the willows, and other flowers, while, 40 miles away, we can see the snow-capped mountains towering high above the clouds; and still, on some clear days, so pure is the atmosphere that they seem to be within five miles of us. Bee-keepers are looking forward to a favorable season, as there has been an abundance of rain thus far.

Now, an Eastern man coming in here, and selecting a site for a bee ranch, may find what he calls a splendid locality, and he sets his apiary upon a bench of land in some canon, and above the possibility of the flood. He goes to work, and makes a good road, perhaps partly in the bottom of the canon and partly dug out of the side of the mountain, at quite an expense of labor, and perhaps money, and he has that road either to make over or repair every winter, and sometimes even three and four times in the season. There are plenty of good sites yet, however, where this risk of having a cloud tipped over on to your head, and your apiary destroyed, or your road washed out or covered up with bowlders and debris, can be avoided. So don't look all the time on the dark side.

The bee-keeper usually does his own cooking, washing, &c., at those ranches in the mountains, and lives a sort of hermit life, at an expense (for provisions) of from 40 to 60 cents per week. He has his gun which furnishes him with fresh meat. Common cotton-tail and jack rabbits, and California and mountain quail are very plenty. Occasionally he gets a fat buck. California squirrels, coons, wild cats, coyotes, California lions, and sometimes a grizzly bear also help to supply his larder if he likes such meat. I do not "hanker arter" it myself.

E. GALLUP.

Santa Ana, Los Angeles Co., Cal., Jan. 6, 1880.

P. S.—Mr. Geo. M. Dale, an honored bee-keeper from Border Plains, Webster Co., Iowa, died here at Santa Ana, on Dec. 30th, of ulceration of the stomach. He had been failing for five years. He leaves a wife and one child. They came here for his health, but too late.

E. G.

Friend G., it seems you have not yet lost your old habit of quaint jesting, but surely you do not mean to intimate that, because the people prayed earnestly for the rain they needed, God caused those clouds to tip over on their heads, washing away their apiaries, roads, etc.? It seems to me just now, being tired from handling so long heaps of letters, that the hermit life you describe is exactly what I do "hanker arter."

CROSS BEES FOR HONEY, PATENT HIVES, &C.

SOME OF FRIEND GOOD'S EXPERIENCE.

IN the Feb. No., page 75, you say you have often thought that the crossiest bees get the most honey, and ask if anybody else has noticed the same thing. I, for one, have noticed it. I have a colony of pure Italians that are very cross, so much so that I prefer leaving them alone as much as possible.

Last summer, after white clover and basswood bloom, I took all their surplus honey away from them and left them about 31 empty sections. As the season was very poor for honey, after that, I did not look at them again until I prepared them for winter; when, to my surprise, they had filled every section, and had enough honey in their brood nest to winter two colonies, while other colonies just as strong as they did not have honey enough to last them till the middle of winter. My brother-in-law has also a colony of black bees, which, I believe, are the crossiest bees I ever saw, and they are the best honey-gatherers he has.

PATENT HIVES.

My first experience in bee-keeping was purchasing a county right for a patent bee-hive, for which I paid \$205.00. It was not fit to put bees into, neither was it suitable for a "hen's nest." A man by the name of Howsour, of Carlisle Hill, Ind., is the man who swindled me out of the money—I being but a boy at the time. I tell you, friend Root, it does go against the grain to forgive such persons. My bees are all in good condition so far. I am feeding grape-sugar candy, and some of them are breeding nicely. Now a question, and I will close. You may think it is a very foolish one.

DO HEALTHY BEES VOID THEIR FECES?

Do bees ever void their feces when they are healthy and in good condition? I. R. GOOD.

South West, Ind., Feb. 18, 1880.

The question in regard to the excrement of bees is one but little understood, although, from time to time, many facts bearing on the case have been given. In the summer time, I have been led to think bees voided only a transparent liquid, and that, usually, if not always, on the wing. See A B C, WATER FOR BEES. This accounts for their spotting the hives after having been confined to their hives several stormy days. Quinby held that during good health in the winter they voided their excrement in the shape of a dry, or nearly dry, powder, which is found mixed with dust on the bottom board of the hives. I would like to accept this latter theory, for it seems very likely and reasonable, but, from careful experiments with the microscope, I am compelled to conclude it a mistake, and that the bees in good health can remain until they have a chance to fly out, without voiding anything at all, unless it be water that evaporates like that from their breathing pores, and is absorbed by the sides of their hives, or carried away with the current of air that is always circulating through the hive slowly, during healthy wintering. If I understood Prof. Cook aright in a conversation on the subject, his search for excrement, in the dust of the hives agreed substantially with mine.

CALIFORNIA BEE-KEEPING.

NO. 1.

FRRIEND ROOT:—As it seems that your (or our) GLEANINGS is composed considerably of the experiences of the A B C class, I think I shall have to give my experience also. If you think it worth publishing, I will write again; and if you think not, *all right*. So, here it is.

I am one of those peculiar scholars who have had some success at times, and then, again, things would be adverse. I have been a Southern Iowa bee-keeper (on a limited scale) for three years; but becoming dissatisfied with the changeable climate, and the drawbacks in wintering bees in Iowa, along with the poor pasturage in the neighborhood where I lived, I concluded to emigrate to the semi-tropical climate of Southern-central California. So, after bidding farewell to father, mother, and brother, and old chums of my boyhood years, on the 29th day of Jan., I set out to cross the continent,—first across the plains of Nebraska, the Rocky Mountains, and alkali desert, and lastly across the Sierra Nevada Mountains, that are covered with snow from 5 to 25 feet deep, to the green valley of the Sacramento, where we see all kinds of garden vegetables fresh from the soil, taken to market by the wagon-load. But still our journey is not done; and now we are out for a two-days' ride up the San Joaquin Valley, where the land is covered with flowers that grow from one to three inches high, as with a carpet of the richest hues, which is enough to make a bee-keeper's eyes sparkle. At last we arrive at the nice little village of Lemoore, Tulare Co. As it is natural for one bee-keeper to seek the company of another, we soon made inquiries for the residence of Mr. O. E. Coon, the man who wrote about the *Lippia nodiflora* as a great honey-plant in dry weather, and soon found that he lives one mile west of town, and made haste to get personally acquainted with him. I found a clever, middle-aged man, who considers the study of bee-culture worthy of the most of his attention and time. His apiary is very fine, and contains 180 swarms of black bees, which he is going to Italianize as soon as he can raise the queens. The bee-keepers of this section have never used the extractor, comb foundation, or section-boxes, so far as I can learn. This section of country is irrigated, and is always sure of some honey crop. Mr. Coon's bees have so much honey that some should be extracted to give the queen room to breed, and the bees have been carrying pollen for some days, and have carried in considerable wheat shorts; but flowers are too plenty, and they rather like the natural food in preference to middlings, flour, or any other artificial stuff. Some of the bee-keepers here have robbed their bees so closely that they are starving to death for want of a few ounces of the delicious nectar they gathered last summer. Excuse my long chapter this time, and I will do better next month.

Vine Clover Apiary,

Lemoore, Tulare Co., Cal., Feb. 16, 1880.

We are very glad indeed, friend —, of your report, and as you are, without question, real, veritable flesh and blood, will you not be so kind as to give your name in next No.? I passed the letter over to the proof-reader, and she gave it to the compositors, before we discovered that Vine Clover Apiary was not the name of somebody. To be sure, we shall want to know how you flourish in your new home.

HANDLING BEES OFTEN, AND ITS EFFECT ON THE HONEY CROP.

DEAR NOVICE:—Among a great number of important questions discussed before the Austro-German Congress at *Prague*, Bohemia, some were decided in a manner quite contrary to your views.

You advise the A B C scholars to open hives often, and haul over the bees, to get them used to being handled. Now, our German bee-keepers condemn this idea right up and down. Herr Emil Hilbert, who gave us the *only known* remedy for *foul brood*, says on this point: "The less we disturb our bees, the surer we are of a honey crop. I consider it essential, and belonging to the profitable and right way of keeping bees, to keep them as quiet as possible."

Does it not look reasonable, that a colony of bees disturbed very often cannot do as well as one that is kept quiet? Do we not experience the same thing in every-day life? For instance: We are at work in our shop, making up new hives for the coming season; a neighbor comes in and wants to put a helve into his ax. After considerable talking about how to hang an ax, how best to fasten a helve, and after giving our advice in regard to the matter, we are crowded away from our workbench, and have to get along the best way we can. Our attention is drawn away from our work, and of course we cannot make much headway in our proceedings. Well, after our friendly neighbor gets through with his job, we have to accept many thanks, and, finally, after he has left, we have to clean away his chips and shavings, and are then ready to go to our work again.

Now, is not this the way with our bees, disturbed so often by the anxious bee-keeper, who wants to educate them by force and in a hurry? They are pushed away from their places, smoke is blown into their eyes, and it takes a long time before they recover from this treatment and get things straightened.

There is a good deal of truth in this remark of Herr E. Hilbert: "A beginner is not satisfied if he cannot haul over his bees every day." As we are greatly indebted to him on account of the remedy mentioned, we should pay some attention to the advice he gives us. GREINER BROS.

Naples, Ontario Co., N. Y., Feb. 15, 1880.

I am afraid, friend G., that our friends across the water do not have as convenient hives and appliances as we do. I occasionally go out around the neighborhood, to see how our A B C boys get along, and when they open hives it does not take them much more than a minute, and I do not see that the bees are disturbed or annoyed, especially if it is done in the working season. Sometimes they tip up the combs so that the freshly gathered pollen rattles out, but I scold them for doing even that. Should they smoke the poor little fellows unmercifully, it would of course hinder work some, but simply opening and closing the hives does no harm. When we used to extract the hives all through, brood combs and all, I used sometimes to think it demoralized the colony, and stopped work; but since we empty only the combs in the upper story, I can not see that even extracting need seriously interrupt the labors of the hive. If I am correct, the greater part of our readers will agree that their most profitable stocks are the ones that have been looked into often,

and have been made pets of, as it were. A calf or colt, or even a strawberry plant, that is watched and noticed often is almost sure to be the most thriving one in the lot. Is it not so with a hive of bees? The neighbor that would come into your shop and presume to take your place and your tools should be told kindly but firmly that you could not well accommodate him in that way. We have the same kind of people here. I would say to the A B C class, that they *must not* interrupt and bother the bees when they open the hives; use only a very little smoke; go to the hives only when they are fully at work; and you can easily satisfy yourselves that there is no cessation of labors, and no loss in the honey crop. I am much obliged to Herr Hilbert, and you too, friend G., for calling attention to the matter.

THE pile of letters waiting for a place in GLEANINGS is now greater than ever before. It would seem that my mention of enlarging the journal induced many of you to make your letters still longer. It is much like speaking in meeting. To get the most good, we want to hear from all, or at least from the greatest number possible; but, if one brother should occupy 10 minutes of the half-hour how can this be possible? If you want your letters published, write briefly, and to the point; and, if you find your article is getting too long and you are not done, stop without being done. Do you not see how it is, my friends? and do you not agree with me? If you do not write for publication, write as long a letter as you please. I am always glad to read them.

I SUPPOSE I have been "stealing," in a mild sort of a way, and that the only thing to do is to restore the stolen property, and stop doing so any more. It is the ideas embodied in some of the cartoons. The first one given, last April, was suggested by an engraving on an envelope, but the original had nothing to do with bees whatever. As our engraving scarcely bore a resemblance to the picture, I did not give any credit. The next, in the May No., the engraver and I made entirely "out of our own heads," as we did also those in the June and July numbers. The one in the Aug. No. ("Mr. Merry Banks' dream"), which made a good deal of sport, was finished in the lower part of it, and ready for the press, when somebody sent me a copy of *The American Punch*, from the front cover of which, I borrowed the idea of the wagon and some of the figures. Where they had "punch," I substituted the word honey. As we get most of our ideas from people and things, I did not then think it incumbent on me to explain. "Impending Bankruptcy" came also from "Punch," but was much nearer the original. "Climbing over a fence instead of going in at the gate," was from an item I found in an exchange, but with no engraving. The spider plant was, of course, all our own. Mr. Merry Banks' trials in making fdn. was suggested by a picture in an almanac. The one in the Feb. number came from *Land and Home*, and was so near the original that a friend wrote the following:

You would better credit *Land and Home* with that cartoon, or somebody from Stelton will be "after speaking about it." G. W. THOMPSON.

Stelton, N. J., Feb. 6, 1880.

The one in the present number, I tore from a scrap of paper, and I do not know the author. The original had nothing to do with bee culture. Now if you will forgive me, I will try hereafter to give proper credit, even though I am in a hurry, and crowded for room.

Heads of Grain, From Different Fields.

STEALING HONEY, AND RETURNING GOOD FOR EVIL.

I HAVE, at this time, 10 hives of black bees, all doing well except one. Some bad boys, or it may have been men, robbed it on Christmas night and left it open, and the snow was pretty thick in the hive the next morning. I have forgiven whoever it was, and hope the next time they want honey they will ask for it, and they shall have some if I have any.

LESTER B. CARRINGTON.

Mt. Joy, Delta Co., Texas, Feb. 24, 1880.

May God bless you, friend C. I wonder if it is not possible that some one whose eye is resting on these pages may not have robbed a bee hive some time in their lives. I know of one who is guilty, and the few hives of bees that the honey was stolen from belonged to a good, kind minister, too. The poor man has gone to his last home now, but perhaps I can find some of his relatives, and make a little atonement for my wrong. It would be a joy now to be able to pay back for that honey, with compound interest. I did not think then what I was doing, even though I did know it was wicked.

FLOUR FEEDING IN THE SPRING.

I have 50 colonies of bees in splendid condition. I have fed them in the open air not less than 100 lb. of rye flour, so you see my bees are raising brood right along, while bees that are left to take care of themselves are rearing very little or none at all. Some bee men seem to think it will not pay; but just let them try it. You want to start your bees 6 weeks on meal, before the first bloom comes.

J. C. POMMERT.

Greenfield, Highland Co., O., Feb. 26, 1880.

It seems a little singular that there should be such conflicting reports and opinions in regard to meal feeding, and, in fact, in regard to any kind of feeding in the spring before natural stores. L. C. Root not only advises keeping the bees in the cellar until natural stores are to be had, but, if I am correct, disapproves of all flour feeding, candy feeding, and every thing of the kind. While I have seen stocks built up to the swarming pitch, by judicious feeding before natural stores came, I have also seen others that seemed to have sustained injury, by having been induced by spring feeding to start brood too early. A difference in seasons may have much to do with it.

FLOUR IN LIQUID FOOD, AND HOW THE BEES PREVENT LIQUIDS FROM SOURING.

I took cold syrup, and stirred in flour to make a thick batter, and gave it to my bees. Some of them became entangled in the dough. They seem to take hold of it slowly. The questions I wish to ask are, will it sour? and is it a good way to feed?

Anderson, Ind., Feb. 27, 1880.

A. J. DAVIS.

It will sour, but you can prevent this by mixing only as much at one time as they will take up inside of 24 hours. After the bees once get a substance into their combs,

they will take care of the souring, unless they have such a quantity that they can not cover and care for it. The way in which they do this, if I am correct, is not fully understood. They will take maple sap, cider, thin honey, and other such diluted sweets, and, even during warm weather when if outside the hive it would sour in a very short time, they will spread it out in the cells, and by some process of ventilation, or working it over, will ripen it into thick syrup pure and sweet; more than that, they will take syrup slightly soured, and, if the bees are strong enough, and the quantity given them at once not too great, they will make it pure and sweet. It is because of the danger of souring, that I have recommended the flour to be put in candy, rather than in syrup. In the candy, it may remain a year, for aught I know, without injury.

CHICKEN CORN FOR BEES.

Now I wish to know if anybody found that chicken corn, mentioned in April No. of last year, to be good bee-feed. It was not good bee-feed here. I never saw a honey bee on it, and but very few other insects. I sent to Mr. Battle for seed, fearing you would be out. I have a half bushel of seed, but if it is only good in Tennessee it is of not much use to plant it. There is no sweet in the stalk. I cooked some seed and found it edible. It was very dry here last summer, so that the buckwheat and Spanish needles yielded very little honey. I saw a few bees on artichoke bloom. Is it good for bees generally?

Nashville, Mo., Feb. 24, '80.

DAVID SENSNEY.

Are you not a little rough on your friends, friend S.? Friend Battle certainly would not take the trouble to send the seeds to me free of charge, if it had not proved a good honey plant with himself. We planted the chicken corn, but it was rather late, and we did not notice any bees on it. Almost all plants fail at times to secrete honey. Such is the case every little while even with white clover and basswood, the best honey plants known. I have seen bees on artichokes to some extent, and, as they are a near relative of the sun-flower, it is rather to be expected.

EARLY SWEET OR SUGAR CORN FOR BEES.

While on the subject of chicken corn, I am reminded that one of our neighbors who keeps bees raised early corn for market one year, and he says he saw more bees on his early sugar corn than on almost any other plant he has ever raised. We have as good authority as our friend Gallup for saying that they get honey from the corn, as well as pollen; and, from the testimony of others and my own observation, I am inclined to think the early sugar corn will be a very good investment for the bee keeper. If it is a poor honey season, you will have the roasting ears to sell, any way; and, later in the season, a good patch may be sowed for fodder; this yields pollen in great quantities, and I have good reason to consider it of more value to the bees, than the pollen from ordinary field corn. Friend Hasty, can not you raise a variety of corn that will yield large quantities of honey from the tassels? Who will furnish us early sugar corn, cheap, by the quart, peck, or bushel?

BEE-KEEPERS PRICE LISTS AND CIRCULARS.

I told you I would send you a copy of my circular when I got it printed, but I do not want you to laugh at it, when you see all the mistakes in it. If all the rest of the printers are as good at making mistakes as the one I got to do my printing, you must have some fun. But you must make an allowance for us backwoods settlers, if we do not do things right the first time we try them. JOHN W. CALDER.

Williamston, Ont., Ca., Feb. 13, 1880.

It is rather bad, friend C., to see bad spelling, bad grammar, and bad print, but it is by no means to be compared to a bad and fault-finding spirit manifested toward others who are in the same line of business. I have not seen much of the latter, it is true, but now and then a spirit is manifest that seems to say, "Buy of me; I will sell better goods, and sell them cheaper, than my brother in business." To be sure, it is well to do this, if you can honestly and consistently, but I beg of you, dear friends, do not ever think it necessary to indulge in unkind insinuations, even while extolling the good qualities of your own wares. Remember the little text that ends with, "*and thy neighbor as thyself.*" If you stick to this, there will always be plenty of room, and plenty to do. No one can not be finding fault with *your* circular, friend C., for I have not even seen it yet.

THE CHEIROGRAPH; HOW TO MAKE THE INK, ETC.

Mr. Editor:—I think if you or some one else who told us how to make the cheirograph had given us a good recipe for making the ink, there would be less trouble. Here is a recipe I got of Fuller & Stillman, New York, with enough of the powder to make a little ink, for 25 cents:

Dissolve 1 part of the aniline in 7 parts of hot water. After cooling, add 1 part spirits of wine, a few drops of ether (1 put 4 or 5 drops in mine), and a drop of carbolic acid. Keep in a well-stopped bottle.

With this recipe and a good pad I will warrant it to work, for I have just taken 134 impressions, and I think I could make 150 that could be read easily. You want to be sure to get good aniline. What we got first for aniline did not look much like the last. It was a bronze color to look at. Glue and glycerine cost 30 c. For a tin dish, the tinnerns wanted 20 c. for making, so we made one ourselves. Take a square piece of tin the right size, and cut half an inch out of each corner, then bend it up until the corners are close together; then solder them, and you have a dish for less than 10 c. V. W. KEENEY.

Shirland, Ill., March 3, 1880.

Thanks, friend K. We obtained the best directions we could at the time, and I supposed that it would very likely be improved. We can furnish the tin plate, with a good serviceable cover, for 10c. We will try to get a supply of the best aniline for the benefit of our readers. I know that the article generally kept at our drug stores is not what is required. A good firm pad seems also quite important.

CHEAPER SECTIONS.

Mr. Root:—I send a section frame of my own invention, for surplus honey. I have used them 4 or 5 years, and find that they give entire satisfaction. They are easily made, require but one small tack to hold them, and are so very light. I use Langstroth

hive, 10 frames. I could furnish the sections here in large quantities at \$1.25 per thousand, and could vary them in size. No patent. G. W. CHURCH.

Benton Harbor, Mich., March 5, 1880.

Your section frame, friend C., is exactly the kind we described years ago, when section boxes were first talked about; but your price is lower than any thing ever offered before, to my knowledge. Are you sure you could pay expenses and come out "whole," at the price you name? If you are not an old hand at manufacturing goods, I shall be inclined to think you have got the price lower than you can afford it. I will say to our readers, that the section is simply a strip of whitewood veneer, or berry box material, 1½ inches wide, scored so as to bend up into a box, the ends lapping. One tack holds the lap. The boxes are placed in an ordinary brood frame, and, to get the right thickness of comb honey, the frames are placed a little distance apart. It will answer all purposes, and great crops of honey will be stored, in these light, narrow sections, but what are we to do with a tun of such honey? You can not set them into any kind of a shipping crate without their mashing each other, and you can not do one up for a customer in any way that I know of, so that it can be carried safely unless he carries it all the time in his hands, and then he stands a great chance of mashing the whole thing, or letting it fall out of the frame, if he does not handle it very carefully. It may do to retail directly out of the hive to your neighbors, but all who have used them, so far as I know, have discarded them for something stronger and nicer.

THE MAILING CAGE; HONOR TO WHOM HONOR IS DUE.

I mail you with this a queen cage like one I sent with a letter to the Postmaster General, Feb. 20th, 1879, and like one I sent you, the latter part of last May, or the first part of June. I did not write you at the time, but put my name and address on the cage. I do not believe you received it, as I have reason to think that it was thrown out of the mail by some over zealous agent or postmaster. From your description on page 180, I should say it was similar to the cage you propose to have engraved next month.

L. HEINE.

Smithville South, Queens Co., N. Y., Mar. 6, 1880.

The cage was received, friend H., but I had entirely forgotten ever having seen such a thing, until I was reminded by taking a search in our "museum," where I found exactly the thing that Mr. Gray and I had been at work on, labeled with your name and address. I beg pardon, and cheerfully hand the invention over to you where it belongs.

CABINET OF NEW INVENTIONS AND CURIOSITIES.

This illustrates a point I have long been considering. Our collection of samples and models is getting to be like the patent office. Smokers we have in such numbers and variety, that it would almost weary one to look at them, let alone thinking of studying them all out. Feeders and queen cages are about as varied and plentiful. We have lately commenced labeling each article with date, name, and address, and as a great many ar-

ticles come with no clue at all as to the owner, I would respectfully request the senders to try to do this. The rulings of the post-office department allow this much, but under no circumstances are you to write anything more, unless you pay letter postage on the article. I will try to notice them a little more than I have done on these pages, even if they are not all of them new inventions. By the way, I think we will open a department for the notice of new inventions and curiosities received during the preceding month.

HONEY-BOARDS -- WHY THEY ARE NO LONGER NEEDED.

Please inform me if you use any honey-board or slats as a division between the brood-hive and honey-chamber, in Simplicity hive, to prevent the queen from depositing eggs in honey-sections. I have used Langstroth hives, and have usually had a honey-board to separate the different parts of the hive.

WM. RUDDIMAN.

Dearborn, Mich., March 8, 1880.

The bottom bars of the wide frames form a honey board, friend R., as you will see if you reflect that the spaces between them are only about $\frac{1}{4}$ of an inch wide. The queen very seldom goes up through such a passage, and if she did, she would not be inclined to lay in such small sized, thick combs of honey. The use of the separators is also a hindrance, as she seldom likes the looks of so much metal in her brooding apartment.

THE MAILING QUEEN-CAGE.

The government demands sugar in the cage, and a double wire-gauze or perforated-tin screen. Government employees can not judge of the keeping of the spirit of a law; they are incompetent. Why, then, urge any but a double-walled, wire-gauze cage, with candy and no bottle? The cage you sent me to take to Washington was good enough. Why praise any other plan? I take no credit for the double-walled screen. I had heard the same suggested, and had sent queens in them before I went to the convention. I wrote to several, as to you, to send cages, that I might be sure to please the Postmaster General.

A. J. COOK.

Lansing, Mich., March 8, 1880.

Thanks, friend C.; very likely you are right, but the double wire gauze is not nearly as sure a protection as a solid board, and if I should use double gauze I should prefer still to have the board over it. I do not know how the department could object to this, unless because the clerks could not have the privilege of seeing what our queens look like. Unless we can be permitted to use water in the cages, I fear we shall have much trouble in shipping long distances. My experience of last season in sending queens with bees and a piece of comb, enough so they may be laying on the way, with the cheering reports from such queens, has perhaps made me somewhat loth to undertake our old small cages, and candy without water.

WHITE CLOVER AND WHITE DUTCH CLOVER SEED.

Our indigenous, common white-clover is not the same as White Dutch Clover. The latter grows much larger and stronger. The probabilities are

that your white clover is the "Dutch;" as the native grows too short to make the harvesting of the crop for seed profitable. Occasionally we get Ohio-grown Timothy with a sprinkling of native white clover in it, but have never been able to obtain it pure.

PEA FLOUR.

Pea flour is used sometimes for cooking. It will make good pea soup in shorter notice than either whole or split peas. We use it in the manufacture of food for mocking, and other insectivorous, birds. We can furnish pea flour at 5c. per pound.

Cleveland, O., Mar. 10, 1880.

A. C. KENDEL.

MAKING ALIGHTING BOARDS ALL OF ONE PIECE.

We make our alighting boards now in one piece. We take a 3 in. plank dress and saw it as you do the corners to your chaff hives, then make the entrance with a wabbling saw.

C. E. WRIGHT & CO.

Beaver Dam, Wis., Mar. 8, 1880.

Many thanks, friend W. I have thought of the plan, but, as we generally make them of refuse pieces, the work has been the principal expense. Another thing: we generally have to pay higher for three-inch plank than for other lumber; but if farmers get out their own logs and take them to the mill, it ought to be cheaper to have them sawed into three-inch plank than into one-inch boards, and an accommodating miller will usually make it so. Stuff worked out of one piece has the advantage of having no cracks or joints to open and let water in, and, when painted, makes a much neater looking job. Your idea of finishing with the wabbling saw is new, and quite ingenious.

GRAPE-SUGAR CANDY.

My bees have been very quiet this winter. They are in chaff hives on their summer stands. I think I have as many as 40 or 50 swarms that haven't had a fly this winter, and their entrances are all open and free. Those with slabs of candy are most quiet.

MORE ABOUT THAT ADAMS HORSE-POWER.

It was an *Adams*, not a *Childs*, power; and that you may believe me *this time*, I will send the shipping bill. Now, brother Root, I hope you and brother H. M. Hunt will not ascribe my failure to my want of "patience," "ropes," or "chains." I used a four-inch rubber belt without its slipping or running off. The trouble is, no horse can stand it to travel in so small a circle. I have tried other horses besides my own. I used a steamer belonging to a thrashing machine afterward, and that worked well.

Tell the boys I am glad they are trying to help you in the Sabbath-school, and if they will continue to do so they will become good and useful men. We want to hear from them often, and that they are helping you more and more as they are getting older.

J. CHILDS.

Amherst, Portage Co., Wis., March 5, 1880.

From the above it would seem that the original Adams, who claims to be the patentee and inventor of the machine, could not furnish as good a one as an inexperienced or green hand at the business. Many thanks, friend C., for your kind remembrance of the boys. The electrical and other experiments have captivated them completely, and they are beginning to be the best friends I have.

DRONES FLYING IN FEBRUARY.

It would be perfectly splendid to keep bees, if our winters were always as warm as this. To-day, the 17th, as I was watching my bees carrying flour to their hives, a drone came flying by. I soon found that they were flying from a strong colony of Italians that were in a simplified L. hive, with 4 in. of chaff all around them, a chaff cushion in upper story, and hive reduced to 7 frames with chaff division boards, *a la* Root.

Fearing they might have a drone-laying queen, I overhauled them at once; but they were all right. There was as much worker brood as one could expect at this time of year, and more. I think this will enable me to raise some early queens. Who in Michigan can beat this report? M. D. YORK.

Millington, Mich., Feb. 17, 1880.

HOW MUCH DOES IT TAKE TO WINTER BEES?

We weighed our bees, Oct. 13th. Feb. 13th they had a good fly, and Feb. 14th we weighed 24 swarms, and find they have consumed on an average 5½ lbs. each in 4 months. How does this agree with other records? H. KNUFF & BRO.

Warren, Pa., Feb. 17, 1880.

The 5½ lbs. kept them 4 months, it is true, but the winter has been mild. During the months of March and April, I believe they usually consume in brood rearing more than in two of the winter months. Will you please report again, about May 1st, friend K.?

QUEENLESS STOCKS THAT WON'T START CELLS.

I have a queenless colony of bees, to which I have given a frame of brood, but they will not raise a queen. You will oblige me very much, if you will send me some instructions, as I am a beginner and need all the help I can get. W. T. HEARN.

Montezuma, Tenn., Feb. 15, 1880.

The bees are probably old, and very likely discouraged, and you will therefore have to reinforce them with a few young folks, to give vim and energy to the household. Give them some more brood, and keep giving it to them until they do start queen cells. After the young bees hatch out, you will have no trouble. It sometimes requires considerable brood to make the colony of any value, and therefore it may be cheaper in the end, to unite them at once with some stock that needs more bees, for it injures almost any colony to take away their brood at this season of the year.

PATENT-RIGHT BEE HIVES.

We have a family of six children, and all are small but one, and I have my father to take care of; he is in his 82d year; so you see I have about all I can do to live without being able to get a home. I squandered some of my property for patent rights, and they never did me any good. When I wanted to sell, I had to tell the truth, and they would not sell on the truth. A. J. HOOVER.

Huntsville, Penn., Feb. 24, 1880.

I think that is the universal verdict in regard to patent hives, friend H.; they will not sell on the truth. The worst feature about it is, that the loss almost always falls on honest, hard-working people, like yourself, while the unscrupulous slip out of it, by some dishonest means.

QUILLS FOR BRUSHING BEES OFF THE FRAMES.

I send you a sample of *quills* by to-day's mail. Use them for brushing the bees off their combs. I think you will like them. I have a few to spare at one cent a piece or \$1.00 per hundred.

G. J. FLANSBURGH.

Bethlehem Center, N. Y., Feb. 18, 1880.

They are very good, friend F., and I think will be gladly appropriated by many. Any kind of soft feathers, such as a feather duster enrages bees so much, that I have been rather averse to them; but the quills you send are firm and stiff, and free from down, and, since you suggest it, I remember that our neighbor Shaw uses just such ones. I have, as you know, advised asparagus tops, but they get sticky with honey, and wilted in the sun, besides getting little fibres in the hives, and possibly in the honey. The quills you send might be washed and dried in the sun, when daubed with honey. If enough good ones can be furnished, I think they will be perhaps the best thing we can use to brush the bees off while extracting. They can be safely sent by mail, when ordered in half dozen or dozen lots. I presume they are the stout quills from a turkey gobbler. If anybody can furnish them to me, say for about \$5.00 per thousand, I will sell them for 10c per doz. If wanted by mail, 15c per doz. Or, if friend F., who started them, prefers to supply them, I will most cheerfully allow all the business of supplying to remain in his hands.

GRAPE SUGAR, THE SAGETOWN (ILL.) NOT "POISON" AFTER ALL.

I have never fed any grape sugar to bees till Christmas day, when I thought I would treat 7 or 8 weak stocks that I knew were nearly out of stores. I had made the candy according to your directions, using the grape sugar made at Sagetown, a sample of which our friend W. H. McQuiston sent you. When Jan. GLEANINGS came to hand, and I read your warning, "It would kill anything that ate it," I went down cellar and tapped on the hives, and they answered. I had given them enough to last them as I thought to the middle of January. Well, I was taken sick and could not attend to them till last week, when, on examination, I found them all alive but one; it had starved. The others still had a little left. I gave them another dose, and have not bothered them any since. I think the bitter taste is the same as that in Epsom salts, and comes from the sulphurous acid used. It is about as fine as any I ever saw from Davenport, except one sample. I saw a sample of that you shipped McQuiston, which is much sweeter and is beautiful in color.

SORGHUM MILLS AND BEES.

A sorghum factory within ¼ mile of my apiary killed thousands of bees for me. As soon as they flew into the hot steam, it killed them.

T. G. Mc GAW.

Monmouth, Warren Co., Ill., Feb. 24, 1880.

I am very glad indeed to hear that the sugar is not positively poisonous; the manufacturers can doubtless, without much trouble, remove the objectionable feature you mention. The sample I sent your neighbor was the best quality made by the Buffalo Co. If the hot steam from the sugar mill kills the bees, it may be a hard matter to obviate it. I presume the bees would only go

near the steam, when there was a dearth of pasturage, such as we had last season. If the steam was carried up a tall chimney, would not that cool it off so as to be harmless? Of course, no sugar-maker would wish to do this for the sake of the bees alone, but is it not customary, with the larger works?

TAKING CARE OF BEES ON SHARES, ETC.

The implements I ordered from you came promptly to hand, and I am well pleased. I feel satisfied that my three boys would not take 75c. for the smoker, on account of the fun they have had with it, to say nothing of what I expect from it. For the life of me, I could not think how you filled the feeder, as I could see no place for pouring in the syrup. I could hardly keep my wife from pulling off the top so as to fill it, insisting that was the only way that it could be done. But when I referred to your description of it, she remarked, "How simple!" I replied, "So many mysteries are, when explained."

A man about two miles from me has 15 swarms of bees in old fashioned box-hives and barrels, which he wishes me to transfer to frames, and take charge of during the summer. He wishes me to take my pay out of the increase. We each furnish our own hives. What share of the increase ought I to charge him? I ask this thinking you may know what is customary for such work. JOHN H. BRILLHART.

Tecumseh, Neb., Feb. 20, 1880.

I am glad, friend B., that you had the wisdom to consult the price list before complaining. Beginners find a great many things to inquire about, and I have tried to meet all their inquiries; but where they insist on having each thing explained by letter, rather than to go to the price list, and find it by means of the copious index, I sometimes find it hard to help them. I hardly know what to say about your taking your neighbor's bees in the way you speak of, unless I tell you to work for him by the day, and to buy bees enough of him to pay you for your work. Bees on shares, or in the way you have mentioned, have caused so much unneighborly feeling, I can not feel like advising it. Better reduce everything to a cash value, and then you will have no misunderstanding.

FEEDER TO SLIP UNDER THE FRAMES.

I send you by this mail one of my bee feeders. You see the bees can only reach it from the inside. No robbing can be done, and it is so easy to fill, that a boy 10 years old can feed 100 stocks in less than an hour; besides, it can be filled so that the bees will hardly hear you. I have tried several other feeders and found none to equal this, unless you wish to feed a large amount. For spring stimulating, and all other feeding in a small way, it is "boss."

You can try it. Should it be better than any you use, give me the credit, if it belongs to me. You can make and sell them if you choose. If it is of any value to the bee fraternity, it is well. M. C. SMITH.

Starkville, N. Y., Feb. 23, 1880.

This feeder, with others of its class, is based upon the supposition that there is as much as $\frac{1}{2}$ in. space between the bottom of the hive and the bottom bars of the frames. In our apiary, we object to so much space as this, because the bees soon build little steps of wax, to walk up to the frames on, or what

you would perhaps call little lumps of wax at intervals along the bottom board. If you let the bottom bars come within $\frac{1}{4}$ inch of the bottom board, and we can safely do this with the wired frames that can not sag, there will be hardly room for any kind of a feeder, no matter how shallow. The feeder sent is made of tin, that there may be as little space used as possible. One end of this shallow pan, as it is, extends out to the entrance, and has a little hinged door to cover the end. The feeder is filled by raising this door. Of course, the entrance must be well contracted that no robbers may push in. Friend S. uses strips of wood to divide it off something like the Simplicity feeder. I have never found this necessary with so shallow a pan. I have used feeders of the same kind for several years. Last fall, we fed quite a number of hives in this way, but for the reasons I have mentioned, I did not illustrate them. In cool weather, it is somewhat difficult to get the bees to go down to the bottom board.

ANOTHER A B C SCHOLAR'S REPORT.

I always was afraid of bees, but sometime in June, '78, I saw a neighbor cut a bee-tree, and I got "the fever" bad. Sept. 13th, '78, I bought 2 stands of Italian bees, and took my first lesson in bee-culture, and have been "red hot" ever since about bees, and am not much afraid of them now. My 2 colonies wintered finely and, in the spring of '79, I bought one more swarm of Italians. I did not get much honey; the season was very poor here. My bees built much new comb, and became very strong, but did not swarm. About the last of July, '79, I sent to you for a dollar queen. She came all right, Aug. 2d, was introduced safely, and is doing well. Soon after, my nephew found a bee-tree, cut it, and saved the bees, but lost the queen. He also sent to you for a dollar queen, which came safely and is doing well. About Aug. 22d, '79, Sammy Keys sent for a dollar queen to Italianize his one black colony. His new queen came all right, but three of us could not find his old black queen, although we looked the hive through twice. So Sammy sold his new queen to me, and I made a nucleus for her. I now have, or rather we have, 3 dollar queens, which are pure, for they produce the fairest Italians I ever saw.

Nearly all our bee-keepers use the old box-hives. Some use what they call a "Palace," big enough to put a cow in. Bee-keepers up with the times don't use "Palaces." Why do absconding bees generally go westward? I have only known 3 swarms to go eastward, while many have gone west.

I must think you mistaken, friend S., in your idea that bees generally go west, and if they do, I think that the reason is owing to something else than the simple point of the compass. With us, swarms generally go to the north-east; but I have supposed it is because pasturage is more plentiful near the river that flows within about a mile in that direction. The bees surely have not been reading, and profiting by, Horace Greeley's advice?

DO BEES EAT MORE HONEY IN MILD, OR IN SEVERE WINTERS?

Will bees eat more honey in a mild, open winter like this present one, than in a winter like last one? Our bees have been flying nearly every week up to

the present time. They carry out very few dead bees, and are looking very clean and bright. I will close by wishing GLEANINGS could come every week.

Adamsville, O., Feb. 18, '80. G. R. SHIRER.

I think bees, as a general thing, will consume less stores during a mild winter than a severe one, else our statements that cellar wintering saves so much honey can hardly be correct. But, for all this, a colony with a young queen and plenty of pollen might raise so much more brood during a warm winter, that they would really consume more honey than during a severe winter, and, in some instances, very much more. Thus you see there are several circumstances to be taken into consideration, before we can answer such a question intelligently. It should be borne in mind that any colony is liable to use up their stores unexpectedly, and therefore we have almost no *absolute* safeguard against starvation, or suffering for scanty stores, except in carefully examining the condition of our hives frequently, especially during the spring months.

ITALIANS ROBBING BLACKS. SEE PAGE 76.

I find upon examination that the colony which seems to be pestered most by my Italians has a good queen, and brood in all stages. Now, I presume you see that the "fault" is not altogether in their owner, as you suggest. It is my old black colony that is pestered, and the Italians seem at every chance to be at their same habit, robbing. My idea is that the Italian bee is endowed with a natural instinct for such conduct, and that there is no remedy except closing the entrance, when they once get a start on the black bees. In conclusion, I will say *thanks* for your instructions, and will submit this to your disposal.

B. C. BALLOW.

Owaneco, Ill., Feb. 13, 1880.

Beg pardon, friend B., if your colony was not queenless, after all. But I would still say that I think it is a particular colony of Italians, or it may be a particular strain of Italian blood, that shows such a disposition to pilfer from the common bees. I say this, because the great majority are so fully agreed that Italians, as a general thing, are not more disposed to steal than the common bees. They are certainly more energetic and industrious, and this will often account for their finding weak colonies where common bees would not.

ADULTERATED COMB HONEY.

I send by this mail a sample of honey, so called. I purchased the section from which this sample was taken in Cleveland, from a case marked G. B. Bartholomew, Ulster, Pa., manufacturer of patent bee-hives and *fancy honey*. I think this will not prove your article correct, which recently appeared in GLEANINGS, stating that the claimed adulteration of honey is a scare, and without foundation. Such vile stuff as this has been in the Cleveland market year after year. The only redeeming feature in this instance is that over 40 per cent is wood and glass.

J. B. HAINS.

Bedford, Cuyahoga Co., O., Feb. 23, 1880.

The sample of comb honey is not good, and I should not think it would be salable, in any market, but I feel sure, friend H., that it is pure honey. It is dark colored,

and not of pleasant taste, but it is exactly like what I have many times taken from old box hives, in localities where there is fall pasturage from rank weeds. I should say a part of it was buckwheat, and its being partially candied seems to have made it still more unpalatable. If we were going to have adulterated honey stored in the combs, it would be almost as cheap to have it white and fine looking, as to have it like this; for sugar and glucose make a syrup whiter than any honey. If I were to look for adulterated comb honey, I should be most suspicious of the whitest and fairest.

ACCOUNT BOOK FOR BEE-KEEPERS.

I wish you would get some convenient form of account book, with appropriate headings, for keeping accounts with the apiary. Let the size be about 3½ by 5½ or 4 by 6 in., 1, or ¾ of an inch thick. I think they would be used by nearly all of your customers. I certainly would like one, for I feel that such a book is actually needed, with printed headings, so that anyone could keep an accurate account with his apiary, and many would feel interested to do so if they could be properly started in book-keeping.

W. O. SWEET.

West Mansfield, Bristol Co., Mass., Feb. 25, 1880.

All right, friend S. I have been studying on just such a book for more than two years past. As I have not yet decided on anything to suit me, suppose the friends try their hands—and heads—at it. I will send GLEANINGS one year, to the one who will send me a blank page ruled and labeled just as we want it. If convenient, make it the size of a page of GLEANINGS, and then we can print the pages cheaply on our press. What is it, boys, that we want this book to tell, and how do we want the different heads arranged?

CHAFF HIVES WITH A B C SCHOLARS.

One year ago I sent for a sample copy of GLEANINGS. I had one swarm in a box-hive. I became interested in GLEANINGS, sent for a sample hive, then sent for A B C, bought a saw to make hives with, and then bought one more swarm, so I had two, as directed in A B C. Mr. Lawson transferred one for me, and I transferred the other. During the summer, I increased to six. I put one in a chaff hive about the first of Sept., and the way brood-rearing was kept up in that hive was a caution. When the others had suspended, these were going all the time, and went into winter strong in bees. Give me the chaff hive all the time for winter. Thinking it good policy, "in time of peace to prepare for war," I have my hives and frames all ready for the coming campaign, as I expect to increase to 18. Some bees in this vicinity have starved. The other day a small swarm came and settled on one of my chaff hives.

CORN-SILK VERSUS CHAFF.

I put 2 swarms away for winter packed in corn-silks, and I like that better than chaff, as it is warmer.

FRANK MCGLADE.

Centerville, O.

Perhaps some of you new comers may think it a big story, when you read in the A B C, that if your hives and apiary are all in readiness, like friend M.'s, bees will come and ask to be taken care of. You see the

above statement corroborates it. I should think corn silk would do very well, but where are we to get enough of it?

BEEES TO LOOK AT, OR BEEES FOR HONEY.

I am a new beginner, but have had bees the last 4 years. A year ago last season, I had only 5 stands of bees, but got more honey than my little family could use during the next year to come. That gave me the beginning of the bee fever. I thought I was getting a big surplus from my 5 colonies, although it was but a little over 100 lb., until I heard of others getting such great yields that it laid me clear back in the shade, where the sun won't strike me for a week. I now have 13 colonies, 3 Italians, the rest blacks and hybrids. I received two queens last year, June 3d, and introduced them safely. I gave one to a colony deprived of its native queen, the other to an artificial swarm. The first one mentioned led off a swarm about the 20th of June, which was somewhat under size. They issued from a hive of 8 frames, and I put them in the same sized hive, and, to make them sure, I gave them a frame of brood from the parent hive. They stored honey in that little hive until it was surprising to me and every person that hefted it; it was quite a little load to lift with the cap off. The hive still remains heavy. It was the heaviest I had last fall, out of 13 hives, most of which were larger. The bees of this queen are of a dark color, showing but two bands, and very cross also; while the other produces bees of a brighter color, showing 3 bands plainly, and more docile. Now, which queen would I better breed from? Let me have your opinion. Last season was poor here for surplus honey. Bees made enough to winter on very nicely, by exchanging frames between the heavy and light stocks. E. SALISBURY.

Ossian, Wells Co., Ind., March 3, 1880.

Friend S., if you want honey, and do not intend to sell queens, I should be reckless enough to advise you to raise your queens from the hybrid queen, rather than from the other; but I should endeavor to get, if possible, a purely mated queen as good as the hybrid. Are you sure your best queen is a hybrid? These dark colored Italians are often pronounced hybrids, but our test given in the A B C will enable even the veriest novice to decide easily, and that without very much trouble. Much has been said about testing the length of the tongues of the bees by the microscope. I have no objection to this, but it seems to me we take a shorter cut by going right into the apiary, and selecting a queen from the colony that gives the most honey at a season when honey is scarce.

QUEEN CELLS FROM NATURAL SWARMING.

In the Jan. No. of GLEANINGS, page 12, friend Doolittle tells us how he gets early, natural queens. When I wish to obtain a large number of such queens from a selected colony, I practice, in addition to what he there directs, the following: When the swarm issues, put it into a hive filled with brood taken from other stocks. To lessen the probability of the bees starting a lot of queens from this brood, for the first week give them plenty of room to store surplus honey. At the end of that time, remove the surplus honey room, and confine the bees to the brood department, and, in a few days, they will

probably issue again leaving a second lot of natural queen cells. The process can be repeated as long as the bees continue to collect honey from natural sources, or can be induced to swarm by feeding them.

EARLY DRONES.

My first Italian queen was received and introduced in the spring of 1866. As I wished to raise a large brood of drones at once, I took all comb from the colony with the Italian queen, at the time she was introduced, and put in its place, in one side of the hive, four frames filled exclusively with drone comb and also a division board. Bees were then at work on fruit blossoms; and, in the course of two weeks, I had all the drone brood I wanted, and I filled the rest of the hive with worker comb. I have not repeated the experiment, but know of no reason why one can not, in the same way, get all the drones he wants, whenever he wants them, by feeding some substitute for honey and pollen, if the bees are not collecting it.

J. H. TOWNLEY.

Tompkins, Jackson Co., Mich., Feb., 1880.

WINTER RAPE AND 7 TOP TURNIP.

I understand that there is a winter variety of rape seed. I should like to know where it can be found.

JOHN BAKER.

New Hudson, Alleghany Co., N. Y., Mar. 1, 1880.

Who can tell us about the winter rape? I sowed some last fall, hoping it would winter over like the seven-top turnip, but it did not, even during this mild winter. A winter rape would be a great *desideratum*. By the way, is it not possible that seven-top turnip is winter rape? the seeds are so much alike I can not tell them apart, and if the turnip seed only yields oil like the rape, I suppose that is all we want. It is very easily raised, and scarcely interferes at all with raising another crop on the ground. The seven-top turnip sowed in Oct., failed to winter over; it must be sowed early enough to make a good top and foliage, to withstand the frost.

PURE FERTILIZATION; WHAT ARE THE CHANCES?

Will you please tell me whether a queen ever goes outside of the apiary to mate or not? that is, the apiary in which she is kept. I am a beginner, and want to Italianize my bees, and want to know whether I can keep the young queen from mating with black drones or not.

SAM. H. STORER.

Buford, Highland Co., O., Mar. 2, 1880.

As a rule, queens will be fertilized by drones of some other apiary. This seems to be a law of nature, to keep up the vitality of the race. If you are keeping bees for honey, you will get all the benefit of the Italians, by allowing them to do so. For the first few seasons, if there are no other Italians near you, you will raise mostly hybrids, but as the neighboring bees (those in the forests too) will, by the same rule, become Italianized more and more every year, you will soon have stock of your own raising nearly if not quite pure. There seems to be much misapprehension in the matter. I heard of one man who kept his black bees on the other side of the orchard, that he might raise pure queens for sale. I am by no means sure that we want bees *absolutely* pure, to get the best results in honey.

QUEENS BY MAIL, FOUL BROOD IN ITALY, ETC.

I am glad queens can be sent by mail. Please inform me how soon you can send me Italian queens and price. I notice by the newspapers that foul brood is making great destruction among the bees in Italy. How about the healthiness of queens from there?

JOHN S. CALKINS.

Los Angeles, Cal., Feb. 13, 1880.

We have already, March 3d, tried some queens by mail, but without very good success. If we are forbidden to use the bottles of water, I am not very sure it is going to be any great gain, after all; and I have to-day been thinking I should not care to risk them much before May, although we can send them safely by express all winter.

I too have noticed, by the *British Bee Journal*, what is said of foul brood, and as we have now about all the imported blood that can be of any great benefit for the present, perhaps it may be as well to work with what stock we have for at least one season. Foul brood has never been known any where in our vicinity, and I am not at all anxious that it ever shall be. The greater part of our customers have, so far, expressed a preference for queens from the stock that gathered so much more honey than the rest, late in the fall, and we shall probably breed largely from its queen. She is a fine large queen, rather light in color, but her bees are rather dark Italians. Their tongues have been examined, and pronounced considerably longer than the average Italians.

FASTENING STARTERS, AND WATER FOR BEES IN WINTER.

You say, "Mix rosin with the wax, to fasten the starters into the sections." I have fastened mine in with melted beeswax alone, giving them what I call a good stick. Will they be likely to hold? You have been seeking for some way to water bees during winter. What do you think of the plan of putting a small pane of glass right over the brood nest, under the chaff cushion, to condense and gather the moisture? I have tried this in 2 of my hives this winter, laying the glass on sticks running across the frames, so the bees can go from frame to frame. Will it not be enough cooler to be covered with drops for the bees to sip? and yet, with the cushion tucked in closely above, will not the heat of the hive be kept in?

D. D. MARSH.

Georgetown, Mass., Feb. 3, 1880.

We put in the rosin, that the wax may be tougher. This also enables us to use a smaller quantity. Your pane of glass would give the bees water, but I am not sure it would be wholesome water, having been condensed from their breath, and it would also spoil the effect of the chaff cushions, and might cause dampness and even frost, if the colony was small and the weather very severe.

The two following letters were addressed to our friend Townley, and his answers will be found below them.

ALSIKE CLOVER; DOES IT PAY FOR HAY?

Some years ago, you esteemed Alsike very highly for cattle and bees. It would be a favor to the bee keeping fraternity if, through some one of the bee journals, you would give your present opinion of it. So far I have not been very successful with it, and

doubt if it yields as much hay as red clover. Perhaps I don't treat it right.

C. C. MILLER.

Marengo, Ill., Jan. 14, 1880.

I know of no better forage plant for bees than Alsike clover, and none equal to it in quality for all kinds of stock, either for pasture or hay. To yield a large crop it requires a moist, warm soil, or a wet season; and, as dry seasons are the rule and wet ones the exception, it is not generally cultivated, although in favored localities it is quite extensively grown.

J. H. TOWNLEY.

FEEDING HONEY IN MARCH.

Will it pay to feed honey to bees about March, if they have plenty in store? Will they rear brood sooner? and, if so, should it be fed pure or mixed with rye flour? How much should be fed daily? If flour is used, what proportions of each should be taken? Should it be fed on top of frames or between them? I have 19 swarms and 3 nuclei, some Italians and some hybrids.

JOEL RESSLER.

Ypsilanti, Mich.

In this latitude, it will not pay to feed bees honey in March, merely to stimulate breeding. I am not satisfied that any general feeding of honey to bees, for that purpose, in the spring, will pay until after fruit blossoms. There is no advantage in having hives crowded with bees until there is honey to collect, and there will not be much of that till white clover is in blossom. Then, we not only want the hives filled with bees, but we also want plenty of brood in the combs, and, in large apiaries where there is a scarcity of honey between fruit-blossoms and clover, it will pay to feed bees honey to keep the queen laying. GLEANINGS gives full directions for feeding. I have not tried flour candy, but presume it would answer every purpose; it is also cheaper than honey. It will pay to feed meal in the spring, as early as the bees will work at it, which is sometimes the first warm day. I use meal made of about two bushels of oats to one bushel of wheat screenings, and direct the miller to grind it as fine as he can. Last spring, the bees in my home apiary worked all the soiling qualities out of about seven bushels of it.

J. H. TOWNLEY.

Tompkins, Jackson Co., Mich.

While I heartily agree with all that is said of the Alsike, my experience has been rather different so far as regards spring feeding. That is, I have sometimes had excellent results follow from feeding liquid food in March. At other times, I have been led to believe that feeding, or trying to feed, liquid food during cool weather did harm rather than good. After the weather has become pretty well settled and warm, there is no question in regard to the advantage of feeding when the bees are not getting a pretty fair supply from the fields. Feeding the flour candy, if properly done, I believe, is always productive of good results, and I never yet saw a colony too strong in March, and do not know that I ever shall, unless a time shall come when I have more bees than I want, because I can sell neither them nor their honey.

FLOUR FEEDING, — ANOTHER OBJECTION TO IT.

To know the cause of a disease is more than half its prevention. The first indication of dysentery among my bees was in the latter part of last month

(Jan.), after the bees had been carrying in wheat flour very freely almost every day. The discharges looked as if small drops of flour paste had been sprinkled over the hives. As soon as I saw them I stopped the flour. I have not seen any since. Bees are bound up by cold and snow. I will report if I see any more white spots. May not dysentery be caused by the bees eating pollen to excess, when honey is scarce? If so, the remedy is plenty of feed (honey). With the exception of about 100 white spots seen, my 20 colonies are in perfect health, the most of them hatching young bees, with hives as clean as in summer.

A. W. KAYE.

Pewee Valley, Ky., Feb. 4, 1880.

Thanks, friend K. Under such circumstances, I should stop the flour feeding, as you did, although it is possible that something else may have been the primary cause of the spots.

PAINTING HIVES INSIDE. BAD ADVICE.

In Vol. VI., p. 141, W. W. Hipolite gives his experience in painting bee-hives inside. From his article I was induced to try the experiment. In the summer of 1878, I put new swarms in 6 hives painted inside and out. The result was, out of the 6 I lost 5, and the one that survived was so weak I united it with another swarm to save the few remaining bees. The mortality was much greater among those colonies having their hives painted inside, so that it aroused my suspicion, and I concluded the inside painting had killed my bees. Your answer to Samuel R. Lipencott, of Indianapolis, Ind., tallies with my experience. He asks if it would be any advantage to varnish the inside of bee hives. Your answer was, it would doubtless save the bees gumming it over, but the hive would be more liable to dampness. Will James Parshall, of Union Valley, Mo., please report how his bees wintered in those chaff hives that he painted white inside and outside, and oblige a reader of GLEANINGS?

G. J. FLANSBURGH.

Bethlehem Center, Albany Co., N. Y., Feb. 3, '80.

Thanks for your report, friend F., but if you put a chaff division board each side of the cluster, and the usual chaff packing above them, I do not think there will be any trouble. This is our usual custom with chaff hives, whether painted inside or not. Although I have never tried it, I am inclined to think I should like the inside of the hive, and the outside of all the frames, painted one coat, to prevent the collection of propolis and facilitate its removal.

HOW MANY SWARMS OF BEES CAN BE KEPT IN ONE APIARY

Where white clover and basswood are plenty? Do you keep yours in one apiary?

A. S. PECK.

Wattsburgh, Erie Co., Penn., Feb. 1, '80.

I should say, judging from the reports of years past, that from 50 to 100 are as many as it would be advisable to keep in one apiary, where honey is the object. If one is raising queens largely, as we are, the number may, during a part of the season, run up as high as 500. When clover and basswood are in full bloom, it may take nearly 500 stocks to gather all in a radius of their flight; but, at other seasons of the year, there would probably be far too many for the locality. We need to have experiments in the matter,

by setting hives on scales at different points, so that we can see at a glance their daily increase in weight.

CELLAR WINTERING DURING A WARM WINTER.

Friend Root:—I see you ask friend Miller how he kept his bees which are in the cellar in the hives during the warm January just past. I will tell you how I put mine in the cellar. Last fall, I took all stoppings out, took the top off, and left them all open. If the bottoms were loose, I would raise the hive one inch, and leave nothing but the walls of the hive about them. My 30 stocks are all in good condition now.

A SHORT CHAPTER ON BEE-HUNTING.

One year ago, I was cutting bees out of a tree 12 feet high, and fell on my head and shoulders, breaking my breast bone and some ribs, and hurting my neck and head. The left side is numb yet. Excuse my bad writing.

A. G. FOSTER.

Ottawa, Ill., March 1, 1880.

Your plan works tip-top, some winters, friend F., and then again it don't work. I have had the bees come out of the hives so as to cover the cellar bottom when the tops were left off, even when not a ray of light was visible anywhere. I have had this happen so many times, when we have had excessively warm weather in the winter, that I have given up in-door wintering. When they want to get out, I want them to get out. Truly, friend F., you have earned the right to the title of "scarred veteran," if anybody has. Will our bee-hunting boys please take it as a warning to be careful?

MARKING THE QUEEN.

It seems our cartoon of last July is destined to work out some good, after all. Read:

Friend Root, you seem to be a progressive man, and I am going to ask you to help me make another improvement in apiculture. My idea is to stain the wings of the queen with some liquid dye that will not injure the wings or the bees,—some bright color, say red, or any other that can be easily put on and readily seen, at any time when the queen is in sight, for the purpose of quickly finding her when wanted. This need not be done until after she is impregnated, and can be done with a light brush. It can be done (if at all) before you send your queens out, so that your customers will be glad to get queens that can always be readily found, a thing that is often very difficult in large swarms or clusters, especially for persons with little experience. I wrote A. J. Cook whose answer is inclosed. I do not think a paste is the thing. It would daub and load the wings. My idea is to use a liquid that will dry quickly and leave the wings unincumbered.

Sandusky, O., Feb. 24, '80.

LEE CHAMBERS.

Remarks by Prof. Cook.

Your suggestion as to staining the queen so as to make her readily distinguished is a valuable one. I have often stained bees in my experiments, but never for the purpose you mention. Aniline dye is good for coloring. I will experiment as to best paste and write you again. Remember, aniline is a poison. The paste must be such as will not be eaten by the bees.

A. J. COOK.

Lausling, Mich., Feb. 28, 1880.

Who will tell us what color will make her most conspicuous? If her wings could be

made perfectly white, it seems to me my eye would catch it quickest, but you must remember I am somewhat "color blind." I agree with you, friend C., it must not be any thing that the bees will pick at, or that will load the queen in the least, for that would impair her usefulness.

FROM OUR YOUNG FRIEND O. F. BOWEN AGAIN.

The imported queen you let me have [see Nov. No. p. 458] is doing nicely. She is a large, prolific "mistress." Her bees found the provender, when I put it out, the first of any in the apiary. I do love to work among the bees. When I first commenced, stings swelled badly, and I was actually afraid of the little fellows anyhow. But now, after having been stung many hundred times, I do not fear them, and the stings produce no other effect than a little smarting. For one, I am glad that you feel charitably toward friend Alley. He has dealt honorably with me. At one time, I asked for a queen on credit, which he kindly granted. It was more than one month before I had the cash for him. I believe he is trying to be a good man and please all his customers.

Friend Root, some of us A B C boys would feel more free to write you if we had not the idea that you have too much on your mind already to bother with us. We are all apt to undertake too much, I judge by myself. Is this the correct way?

OTIS F. BOWEN.

Randolph, Cattaraugus Co., N. Y., March 1, 1880.

I assure you, friend B., I have never thought of its being a bother to read the letters of the A B C class; on the contrary, I have felt as if it was the especial work that God had given me in life. It is true, I can not always answer all your letters as fully as I would like to do, but I can usually at least indicate to you where your answers are to be found, and I am *always* glad to hear from you in regard to all your wants and wishes in life.

FEEDING MOLASSES, AND CROSS BEES.

I was stung to-day while feeding my bees molasses and water placed on old comb, which they refuse to eat. They are the common black bees, with a tendency to alight on the back part of my head, become entangled in my hair, and then sting.

H. M. NICHOLSON.

Camden, N. J., Feb. 27, 1880.

During a time of great dearth of honey, bees will sometimes eat common molasses, but not as a general thing. They will take maple at any time almost, especially if it is nice. From your very vivid description, friend N., I think a great many of us must have a few bees, at least distantly related to yours. When a bee gets on the back part of my head, I get him off before he has time to sting. If he goes right back again, and shows that he is bent on mischief, I spat him just enough to make him lie still awhile, but not kill him, then lay him on the top of a hive where he can meditate on the sinfulness of letting his "angry passions rise." After awhile, he gets up and flies away, I hope with a wiser, if not sadder, opinion of his owner. Of late, I seldom kill a cross bee, and I do not often get stung either, unless some imprudence in the grounds has started robbing.

GIVING THEM "ENOUGH" (?).

My bees are all right yet, and have plenty of stores. I don't know how they will get through. I have examined 2 hives. They have no brood, for they have no room. So I put one empty frame in, and took out one with honey, to give them a chance to raise brood. I shall watch them, however, and put it back if needed. I fed 4 swarms 100 lb. coffee sugar and 50 lb. of honey, and 1 had 30 lb. and 2 had 18 lb. each, and to the one out of the woods I fed their own honey, about 30 lb., and for the remainder, sugar syrup. So you see they won't suffer. "Costly bees" aren't they? But I am not discouraged a bit, for I think they will pay me yet. I am on my farm, and it cost me nearly \$400.00 without paying much the first two years, but now it commences to pay. I write this to show that I know that a person must pay out before he can receive anything. I like the bees and honey, and I mean to make it a success if I can.

EXTRACTING RIGHT BY THE HIVES.

Please let me know whether to extract right by the hives, or whether I must take the frames into the house and extract, and take them back to the hive.

HENRY L. WARSTLER.

St. John, Clinton Co., Mich., Feb., 1880.

Truly, friend W., your bees ought to be "fat," by this time; it is so seldom anyone feeds too much, I had hardly thought to give a caution against that extreme. Are you sure they did not have a circle of empty cells, in which to cluster, in at least two of the central combs? When honey is coming in daily, I have seen a hive so filled with honey as to cramp the queen, but I can hardly say I ever saw such the case after they had been through the winter, for they usually consume the honey about as fast as they want extra cells. However, your extreme is a very safe one, and I think you will come out a "big bee-keeper," if you adhere to your position, of course not carrying it to too great extremes.

You can set your extractor right by the hives when honey is coming in so abundantly that the bees will not stop to rob, but at no other time. Where one has but few hives, he may get along, if he hurries through, and gets his things out of the way or covered up, but it is very apt to start robbing, and his first warning may perhaps be that cool quiet way of stinging, without so much as even a warning note, that many of you are but too well acquainted with. I think you would better have a honey house, and have your extractor neatly and permanently fixed for the work.

CAGES ALL OF WOOD INSTEAD OF WIRE CLOTH.

Our bees packed in fine hay have wintered finely on their summer stand. No losses. I like the Brooks mailing cage with your modification, but think several saw cuts, instead of the wide slots, would be safer and stronger, unless the cover is quite thick.

T. F. BINGHAM.

Otsego, Mich., Mar. 8, 1880.

You may remember that I paid friend Scovell, a few years ago, \$25.00 for a queen cage all of wood. After using a few hundred of them, three objections presented themselves: the bees sometimes got their heads stuck in the grooves; the wood bars did not seem to answer so well for allowing the bees to get

acquainted with the queen while being introduced; and last, and most important of all, one could not see the bees and queen through the wood bars, as he can through wire cloth. This last is a very important matter, for we are in a world of careless people, and I am sorry to say our customers are just about as likely to make mistakes as our own clerks. As an illustration, we have had complaints several times this spring, that certain articles were not in the package. Now this has been such a sore point with us, clerks and all, that we are more particular than you perhaps have any idea of. Well, after our most careful clerk had shown us his check mark on the order, showing almost conclusively that the article *was* in the box, we have written back as much. What do you think? Almost every time, the article is found; it had been overlooked in the shavings, or had been thoughtlessly laid somewhere out of sight. In case they could not find it, I have always sent another. Do you not see, my friends, this is pretty hard upon us? To be frank with you, I must say some of you—perhaps it is mostly the younger ones—are very careless, and I do not know but heedless would be the right word. When you open a box, let it be done on a clean table, or a clean place on the floor, and send the children all so far away that they will not “confiscate” anything that may please them, and then very carefully check off the articles, just as we do when we put them up. On our part, we will make it a study to do all we can, to pack things so you can not well lose them. Now as to queens: if we use a cage that does not permit of the queen’s being readily seen and recognized, we leave the door open to dispute as to whether a queen was sent; whereas, if we make the cage so that the one who puts her up, and the clerk who mails the package, as well as the purchaser who receives it, can see her at a glance, we are relieved at once from what has proven by past experience to be quite a responsibility where queens are sent out by the hundreds. You see, by simply moving back the slide, our cage meets all these requirements.

QUILLS FOR GETTING STRAGGLING BEES OFF THE SECTIONS.

Friend F. sends the following in addition to the remarks on page 170:

I think there can be nothing better or nicer for brushing bees from combs, and especially for cleaning the few straggling bees off the surplus sections when taking them off. G. J. FLANSBURGH.

Bethlehem Center, N. Y., Mar. 10, 1880.

DISCOURAGED, BUT HOPES ARE NOT QUITE BLASTED.

I am an old veteran in bee-keeping, over 60 years of age. I have kept bees from boyhood. I learned in the dear school of experience. For over 30 years, I never saw a word in print on bee-culture; but at last the revolution in bee-culture came, with plenty of books, patent, movable-frame hives, and Italian bees. Well, I took hold of all of them, and now how is it? Why, bees multiply with me until I do not know what to do with them. I have now in my yard 70 strong stocks of Italian bees, and I cannot sell bees at any price or honey either. Last season I sold a barrel of pure extracted honey to parties in

Pittsburgh. They turned out to be rascals, and I lost it all. Some years back, I made money in the bee business, but now I can make nothing in this country. Men will look after everything but bees. I am getting too old to go out from home as I used to do, so it is at a stand, and I see no use in going to any more expense, unless they will pay. I would take GLEANINGS, but I make no money and have no help to get along.

WILLIAM REYNOLDS.

Bolivar, Westmoreland, Co., Penn., Mar. 6, 1880.

So, friend R., it seems you have no trouble so far as getting the bees and honey is concerned, but the trouble is in getting rid of them after you have them. It may look as if I had a selfish motive in it, but I must say I think you have lost by not having a bee journal. If you will tell us the name of the persons who will not pay you for your honey, perhaps we may do something for you yet. With the great demand there is for bees, it seems to me they must sell, if those wanting to purchase only knew you had them. Perhaps this notice may send you inquiries enough so you can afford to send for GLEANINGS. Meanwhile, when you have honey on hand you can not sell, just let me know, and I think I can find you a buyer that will at least pay you enough to cover cost of production, and may be a little more. Selling honey in those cheap tin pails bids fair to start enough of a market so that perhaps I can take a little of it, when it is offered pretty low.

FIRST SWARMS GOING TO THE WOODS, ETC.

I have 139 colonies now, having only lost one that I know of, so far this winter. They had a splendid fly last week, and even brought pollen quite freely.

I noticed in several numbers of GLEANINGS last fall, that a great many seem to have trouble about bees leaving them and going to the woods, also with first swarms going together when they swarm; and I have never seen any efficient and practical remedy, or course, recommended to prevent or avoid these difficulties. Now it seems to me that every practical bee-keeper ought to know how to manage so as to avoid anything of the kind; for it does not foster a very pleasant feeling to see a large swarm moving off to the woods, saying, “Good-bye, anxious friends; we go to seek a better country.” Now we will just say that we believe a little experience and tact will overcome these difficulties entirely, as we have not had a swarm leave for the woods in the last 8 years, or two large ones go together; and we have kept, in this time, from 80 to 200 swarms. N. N. SHEPARD.

Cochran, Pa., Mar. 5, 1880.

I entirely agree with you, friend S., that we can not afford, and need not have, bees going off in that style. Does not the A B C tell how such things may be prevented?

QUEENS THAT KEEP A DAUGHTER TO HELP THEM.

The queen alluded to on page 497, Vol. VII., has gone to the land where all good queens go. She left a daughter that has inherited the same disposition; that is, good nature and a love of company. So she has a daughter helping her in her household duties. I have wintered my bees, 15 colonies, without any loss. In fact, during the three years that I have been keeping bees, I have never lost a colony, for which, thanks to GLEANINGS.

S. H. LANE,

Whitestown, Ind., March 10, 1880.

Notes and Queries.

CALIFORNIA.

MY intercourse with neighboring bee-keepers leads me to conclude that there will be fewer bees in this county to begin the season with, than we had two years ago, and not in as good condition as then.

SENDING HONEY ACROSS THE OCEAN.

Most of those who shipped honey from their crop of 1878 to London and other European markets, have received their account of sales during the past month, and report unfavorably in most cases, as the leakage and about a dozen unlooked-for incidental expenses reduce the net returns to less than what they could have realized in San Francisco nearly a year and a half ago.

NATHAN H. SHAW.

San Buenaventura, Ventura Co., Cal., Feb. 20, 1880.

[I am very sorry indeed that the plan of sending honey abroad has turned out to be so unprofitable. Perhaps, after all, we shall be happier and better to be obliged to rely more upon our home markets.]

Why don't you tell us in GLEANINGS what you can furnish ink for by the dozen bottles. We all use ink more or less, but we don't want a gross, or a jug full; yet we can any of us take a dozen bottles, especially to help a friend in trouble, even if it should cost as much as we would have to give at home. I think if the whole *four thousand* of us were each to take a dozen bottles, it would give our friend a lift; what say you, brother bee keepers?

Bees are all alive yet, and doing well, with no signs of dwindling.

WM. L. KING.

Benton Harbor, Mich., Feb. 11, 1880.

Please accept my smiles for the smoker which came all right, and seems to work well. I don't have to spit or tramp on it, to make the fire go out after I am through using it, as is the case with a cotton rag, and then after all find it is not put out.

Pawnee City, Neb., Feb. 18, '80. C. R. MILES.

WINTERING ON CANDY ALONE.

One small, late swarm that I put in my cellar had no honey in the fall, and I have kept them on candy all winter. Do you think such a swarm is worth bothering with and will they amount to anything?

Coriana Center, Me., Feb. 19, '80. C. B. ELLIS.

[To be sure, they will amount to something. Keep on with your candy, and, if it contains flour so that they can go on breeding, they may prove the best colony in your apiary.]

NEW USE FOR SIMPLICITY SMOKER.

I got the extractor and sections about ten days ago, and am much pleased with them. We have had some rare sport with the Simplicity smoker. It goes under the name of "Jumper," and I tell you it's fun when some one who has not seen it work goes to smell the nozzle, to just press the bellows a little and let them get the puff of cold air in the face; then you will see them jump.

W. J. ELLISON.

Stateburg, S. C., Feb. 27, 1880.

I am one of your A B C scholars, or, at least, I want to be. For 15 years, I have been pretending to keep a few bees in box-hives, without giving them any attention, and, of course, I have had bad luck. I got one of your A B C books last year, and one

colony of Italians from one of my neighbors. The colony is in a movable frame hive said to be a Langstroth hive. I took 50 lb. of good honey from it last June. I had 3 old box-hives, and took 10 lb. from each; so you know I am carried away with the Italians. They seem to be doing well. On the 10th inst., they were working strong, and bringing in loads of pollen from the tag alder while the ground was partly covered with snow, but it was as pleasant as April.

J. D. COOPER.

Traveller's Rest, S. Carolina, Feb. 12, 1880.

Bless your lawn chaff hives! While the neighbors' colonies are dying, ours are, so far, all right. They use a packed Kfdder. The last few days were very warm, and the bees proceeded to clean house finely.

JENNIE LEETE.

West Amboy, N. Y., March 1, '80.

[If the Kidder hives were properly packed, I do not know why they should not do well in them, unless it is on account of the patent. It really seems as if the simple fact of a hive's being patented was enough to bring a curse on it, ere it has been in use many seasons.]

I have 32 swarms of bees in the cellar. I took them out and gave them a fly the middle of Jan. They were all right but two, which went into other hives. Last season I got 1,800 lb. of honey from 19 old swarms and got 21 new swarms and 80 new combs made.

FAYETTE LEE.

Cokato, Minn., Jan. 28, 1880.

[The swarming out and going into other hives is an especial feature of weak colonies. Instead of increasing 19 to 40 and then going back to 32, would it not have been better to have kept them 32 all the time? As you did so well in getting 1,800 lb. from 19 colonies, I guess we will not find much fault, no matter how you did it.]

"MULTUM IN PARVO."

Mr. Novice.—Hold your breath one minute; the idea of box making is not new. The Seal-of-North-Carolina Smoking Tobacco is put up in such boxes with lid and bottom as you describe.—To fill a small vial with water or honey, suck the air out, hold your finger over the mouth of the vial, and immerse it in honey or water, or use a syringe.—A good winter-passage tool is an inch tube of tin, with a spring inside to thorough out the comb; I have been using one for two winters.—I have also been using fdn. full size, in section boxes, and like it better than starters. The bees carried the first pollen Jan. 9, '80.

ALICE HOFSTATTER.

Louisville, Ky., Feb 5, 1880.

ALFALFA, AND CALIFORNIA SAGE.

I see Mr. K., in speaking of Alfalfa is not quite right about it. Alfalfa is the name given to Lucerne in Chili, and so was sent to Cal. under that name; and you will find that the Alfalfa differs slightly from Lucerne owing to its being acclimated in Chili. We never had any genuine Lucerne in this state, until lately.

Also you speak about wanting seeds of three kinds of Sage from this state. Now those best informed tell me that there are but two kinds,—the white, and the black which is so called in contradistinction to white. The black is also called blue, from its slightly blue flower, and button sage, as its seeds are in buttons very similar to horehound. No seed can be gathered now, but in early fall there is plenty of

black here, and I will try to send you some next fall.

L. L. BUTLER.

Los Gatos, Cal., Jan. 27, 1880.

PAPER FOR SMOKERS; AND ONE BINGHAM SMOKER FOUND AT LAST THAT "GOES OUT."

Friend Root:—As you seem to know everything (with a little help from your wife, when you get in a corner where you can't wiggle out), I would like to know if paper, such as Mr. Nellis recommended last season, is a success to use in smokers. What do Doolittle, Cook, and other extensive honey-producers use for their smokers? I have a Bingham, but it sometimes "fizzles" when loaded with stove-wood, and makes me feel like choking Bingham (but then, you know, if I should see him I would run). Last season was a poor season, but my bees are all strong, and have plenty of honey. D. G. WEBSTER.

Park's Corners, Ill., March 8, 1880.

[To be frank, I have never tried paper for smokers, because it is too expensive. Our paper, even the poorest old scraps, is worth several cents per lb., while rotten elm wood can be gathered almost anywhere by the wagon-load. Would it not be better, friend W., to feel like getting a load of wood and drying it, in place of choking anybody? When these tempers of ours come up, they can be made very useful if they are only switched around into some useful channel, such as getting a load of wood and the like.]

STENCIL PLATES FOR MARKING HIVES.

Tell A. H. Duff to cut his stencil plates out of a sheet of good writing paper. If he can't cut nice letters, he can get some schoolboy to do it, who will just think it fun. Of course, they won't last like metal, but, after he gets one plate, he can make impressions on paper, and make a new plate from that, by cutting as at first. H. C. JOHNSON.

Reesville, O., March 6, 1880.

[Very good, friend J. The large, printed letters which graced your sheet in the form of a pretty scroll seem, at first sight, as if they must have been made with a printing-press; but since you mention it, I remember that the boys in our Japan room make the lettering for our honey-pails in much the same way, except that they use a peculiar kind of hard, stiff paper, that looks something like thin parchment. A great many of these things can be made at home evenings, just as well as to pay others a big price for doing it.]

HOW OUR FRIEND GOT SICK.

I shall subscribe for GLEANINGS just as soon as I can get on my feet again. I am sick. Endorsing notes-for-other-parties is what ails me.

HENRY J. KING.

Charlotte, Eaton Co., Mich., Feb. 21, 1880.

[Cheer up, friend K., and get well as fast as you can. Your experience may be providential after all, in warning some of our A B C boys against similar mishaps. Pay as you go, and it will then be an easy matter to advise others to do the same.]

A WORD DIRECT FROM OUR OLD FRIEND LANGSTROTH.

I am still suffering so much from my head as to be unable to take any interest in my old pursuits. Oxford, O., Mar. 2, 1880. L. L. L.

[Thank God, friend L., that you are able to write thus much. We will pray that you may be spared to enjoy work with the bees again this season, and

that we may have some more of your kind cheering letters again. Now, a word to our readers: Friend L., when he is able to write, can get a moderate salary from his pen. When his health fails, that salary stops, unless he is remembered from time to time, by some of his old friends. Suppose we give him a small salary any way; and, to start it, I will send him \$10.00 the first of Jan. every year. Who will send it for Feb., and so on? Of course, several will club together, where they choose. In paying our ministers it has been found much better to get a subscription of so much a year, right along, than to get irregular sums, given as one happens to feel like it. How much will you give friend L. a year?]

SPIDER AND SIMPSON PLANTS.

Friend Root:—If M. Riser (page 125, March GLEANINGS) falls short of plants of "Simpson" or "Spider," we can bring up the rear with a few thousand. We have transplanted plants of both now in good condition, March 19th. Three Sunday-school scholars here send greetings to brother Hale, of West Virginia, and his class, on the Spider and Simpson plants. They take a hand at other plants besides. One is in the A B C, and she is going to make an expert. G. W. THOMPSON.

Stelton, N. J., March 19, 1880.

[Thanks. Although our greenhouse is doing wonders, or at least we inexperienced ones think so, I fear we shall not raise as many as we wish for our own use.

Friend J. K. Greenough, of Mechanicsburgh, Campaign Co., O., also writes us that he intends to have Simpson honey-plants and Spider plants ready for sale by the 1st of May, I presume at about the prices given by M. Riser, p. 125, March No. Who else has some ready to send out?]

FOUNDATION FOR SURPLUS BOXES.

Some say 8 ft. to the pound is light enough for surplus section boxes, where the section is to be filled nearly full. I have heard quite a number say the thin, flat-bottomed fdn. would sag very badly in hot weather. I think the fdn. 12 feet to the pound too light for any kind of use. How would 9 feet to the pound do? Also, would you prefer triangular or square pieces as starters in sections?

D. W. FLETCHER.

Lansingville, Tompkins Co., N. Y., March 17, 1880.

[The matter is very much undecided, but I feel quite certain that anything thicker than 10 or 12 ft. to the pound will be liable to show itself in the comb honey. Where the hives are not to be shipped after being put up, we can nearly fill the section. I have never known the bees to stretch fdn. in the surplus boxes to do any harm; but if the very light fdn. should thus stretch, triangular pieces would give a larger base of support in proportion to the amount of surface covered by the bees, and would, without question, give additional security.]

I have got through the winter, so far, without the loss of a single colony of bees; and I attribute it to the fact that they were well supplied (for the first time) with pure, sealed honey. D. B. TEAGUE.

West Milton, Miami Co., O., March 12, 1880.

One-half of my bees have already died this winter. They were in the Mitchell hive. I am out only \$4.00 for the patent, and the making of a few hives.

N. J. MORTON.

Otto, Cattaraugus Co., N. Y., March 18, 1880.

MRS. COTTON AND HER AFFIDAVITS.

I received a circular on bee culture, &c., from one Mrs. Lizzie E. Cotton, West Gorham, Me. To satisfy myself as to the genuineness of her plan, I wrote to J. A. Watterman, Justice of Peace. He told me she made oath about her plan before him, but he knew nothing as to its merits, &c. He referred me to the post master at West Gorham. He states that he knows nothing about it; that he has no faith in it, but does not tell his reason, and refers me to you. Two others and myself are about ready to send for her plan, if we can be assured of its success.

M. M. HARVEY.

Harveysburg, Warren Co., O., Mar. 15, 1880.

[You can see, my friends, how she obtained her affidavits, and what her own townspeople think of her. Those who build up an honest business in a town, as a general thing, are spoken of by their townsmen with pride and pleasure.]

HOME MADE SMOKERS.

I made a Simplicity, cold-blast smoker from directions in last year's GLEANINGS, and it works first-rate. Total cost, except time, 30c. WM. DYKE.

Eureka, Greenwood Co., Kansas, Mar. 7, 1880.

[Thanks, friend D. It gives as much, or more, pleasure, to hear that my instructions have enabled you to make your own goods, as it does to make them.]

LOOK OUT FOR SMOKY WEATHER.

I received the smoker in good trim. It works splendidly. If you notice the atmosphere's being very smoky about fruit-bloom, you can just set it down that I am transferring. The bees are doing finely now. They were carrying in pollen to-day from daylight to dark, and have been for the past week.

A. H. DUFF.

Flat Ridge, O., March 4, 1880.

[Thank you, friend D. If it does get smoky, we shall know exactly what the matter is.]

Why not magnetize the nose of the "pliers for setting tacks into frames in transferring?"

Nokomis, Ill., Mar. 6, 1880. EASTERDAY.

[Why not? sure enough. I am sure, friend E., we are all much obliged for the suggestion.]

CALIFORNIA.

The last three days have given us 7 inches of rain, which ensures us a crop of honey the coming season, so far as rain is concerned. R. WILKIN.

San Buena Ventura, Cal., Feb. 23, 1880.

Our bees have wintered finely, and brought in pollen to-day gaily. MRS. L. HARRISON.

Peoria, Ill., Feb. 26, 1880.

BEES AND VIOLETS.

My two hives of bees are in splendid condition and are working every day in my cold frames, which are filled with single violets all in bloom. H. L. RAND.

Boston, Mass., Mar. 2, 1880.

[Are we to understand, friend R., that your bees are really working on the violets? If so, we have still another novelty in the way of honey plants. Another thing; do you mean that your hives are in the cold frames, and the bees shut in? I can hardly think this, and yet it does not seem that you have weather so far north, that would permit of the cold frames being open "every day" in the fore part of March. Tell us about it.]

I came very near getting into Blasted Hopes, as we did not get a pound of surplus honey last year. I don't know but we may get there yet before the next honey season comes.

A GRAND MISTAKE.

I committed one grand error last spring (as the season turned out) in dividing my bees. I had hard work to get them through the summer with sufficient stores to winter on. I think now that it would have been much better for me had I built up what I had, instead of attempting to increase my stock, at least to the extent that I did, although I divided but once.

JOHN ROBINSON.

Wayne City, Wayne Co., Ill., Feb. 25, 1880.

[It is my opinion, friend R., that more than one of us have made exactly that grand mistake of dividing a little too fast. Powerful colonies are always all right; weak ones, very often, are all wrong.]

Mr. Root:—I have waited on our club as long as I can. GLEANINGS must come. I am behind 2 or 3 Nos., so I don't know what is going on. I haven't heard from "Hutchinson's Babies" for 3 months, or whether yours has got the "roof off from your house" yet or not. My own "little fellers" are doing finely. My bees carried flour 26 days in January and have not missed over a week in Feb. So you see they are eating up a good many of my "biscuits." Please let us hear from bees, and especially from the children.

JOHN FARIS.

Chilhowie, Smyth Co., Va., Feb. 25, 1880.

[Can't say about the "brown eyes" at neighbor Hutchinsons, but we have saved the roof of our house, by turning the baby outdoors. She got in the mud so much, her mother improvised a sidewalk "run," for her, and now, if you want to see her "wake up," no matter whether she is at the table or in bed, just say, "Caddy's sidewalk!"]

KEEPING SQUARE WITH THE WORLD, ETC.

I will pay for 6 mo. subscription to GLEANINGS, and perhaps, by that time, I may make the other half; but I am afraid the money I desire to pay for bees will have to go for doctor's bill, and other extras. Amen, if it is the Lord's will. That is best; "Thy will be done." I will try to keep square with the world, but my greatest effort is to keep square with heaven.

D. T. LAWRENCE.

Danmore, Lacka. Co., Pa., Mar. 15, 1880.

[Isn't there a pretty good sermon in the above few lines, my friends? May the Lord bless and help you and yours, friend L., and may you always be found square with the world and heaven too.]

BLACK QUEENS; WHO WANTS THEM?

I have a few black queens which I would like to dispose of in May, and I would be glad to mail them to any one desiring blacks, at 25 c. apiece. I only offer them because I expect to replace them with Italians, and I would rather carry them to the P. O. for some party than to behead them. Our bees are bringing in pollen, and some honey, though I am not quite sure but they are stealing the honey somewhere. I have lost one of 11 by robbing, but hope to save the rest. Bees have wintered well thus far in this section.

J. W. SHULL.

Pleasant Dale, Hampshire Co., W. Va., Mar. 1, '80.

You say maple sugar caked is excellent feed for building up swarms. If bees have plenty of stores, is it necessary to feed in the spring?

[Of course it is not necessary to feed bees when

they have plenty of stores, even if they are gathering none; but I am quite sure they will increase much faster, if a cake of sugar is left over them under the cushions.]

My bees are all hybrids. What is the cheapest and best way to Italianize a whole apiary?

[I cannot tell you the cheapest way to Italianize a whole apiary much better than I can tell you the cheapest way to manage your farm, friend S.; so much depends on circumstances. The A B C book considers the matter in all its points, I believe. —Of course, the quickest way would be to buy a queen for each hive, but it would cost less money out, to buy one queen and raise the rest.]

I want to know something about sourwood, —how long it will take to bloom after planting, and, if I could get plants, whether they would grow on limestone land or not.

[Who will tell us about the sourwood tree?]

How long will it take basswood to bloom after planting? D. F. STEELE.

Gosport, Owen Co., Ind., Mar. 7, 1880.

[From 5 to 10 years; and it will probably take from 15 to 20 for them to bear large crops of honey.]

EIGHT OR TEN FRAME HIVES.

Why is the 10-frame Langstroth hive better than the 8-frame?

[Bees will be more apt to starve in an 8-frame, unless carefully looked after, because the 8 frames will not hold as much as the 10 frames. Such hives are also much colder in winter, because there is scarcely room for a chaff-cushion division-board on each side of the cluster, where the colony is large. They have been discarded by the majority of beekeepers, if I am correct. Where one raises bees principally to sell colonies, and his customers will give as much for a colony in an 8-frame hive, it may be the most profitable hive for the seller.]

VENTILATION.

When water comes running out of the entrance in the winter, is it because the hives haven't ventilation enough? and if so, how would you give them ventilation? When do they need most ventilation—in winter or summer?

[When water runs out of the hives, I should say it is certainly for want of ventilation. If the hives are poorly ventilated in summer, the bees will come out on the outside. They can not well do this in winter, and therefore often die. There is no cold draft through hives packed with chaff or similar materials, because the air passes through it slowly.]

If bees do not have a cold draft through their hives, then how can they live in the old-fashioned box-hives, without any protection all summer?

[Bees do not live satisfactorily in the old box-hives.]

COFFEE SACKING.

Can you furnish me coffee-sacks, of such material as the sample in this letter? If so, how much a piece? JOHAN JACKEL.

Bell Plain, Shawano Co., Wis., March 13, 1880.

[I presume we could find coffee-sacks, but they would of course come to more than the material of which they are made. We will at once take steps to see how low, per yard, coffee sacking can be furnished. *Later:* Can furnish the material 40 in. wide, at 12 cents per yard.]

TEXAS AND YORK STATE, BOTH IN THE SHADE.

Editor Gleanings:—I have just seen the March No. of *GLEANINGS*. A report from Texas which says

"Doolittle in the shade" tempts me to make "a small report from California."

I commenced in the spring of 1878, with 65 colonies in poor condition, having just passed through the drouth of 1877. I increased to 145, took 17,300 lb. extracted, and 1,500 lb. comb honey. Extracted honey was almost entirely from brood department. I did the work *alone*, besides attending to one acre of corn, and three times plowing my one acre town lot. If any bee man has equaled this report, by extracting from brood department, let him stand up.

Santa Paula, Cal., Mar. 11, '80. E. BARBOUR.

I have no bees as yet, but have the bee fever equal to your New Zealand friend in March *GLEANINGS*. I have Quinby's new book, and, with the A B C and *GLEANINGS*, hope to get ready to keep bees by spring. I hope I shall not have to come into Blasted Hopes; would much prefer to be in the Smilery.

MISS M. W. MCINTIRE.

Walpole, Norfolk Co., Mass., Mar. 10, 1880.

SUGAR AND POTATOES.

The bees here in Kansas have wintered well, considering their scanty stores of honey. I am feeding sugar and sweet potatoes for early brood.

JOSEPH MICHAEL.

Echo, Douglas Co., Kan., Mar. 11, 1880.

CHAFF HIVES.

I am highly pleased with those chaff hives I got of you last Dec. It was not long after I received them, before I put some colonies of bees in them, and after using them the past winter, I pronounce them excellent for wintering bees. Dead bees have been hard to find in front of them. If they are as good for summer use, I shall be glad.

SYMPHORICARPUS VULGARIS.

Last season, before this plant bloomed, people were talking about all of the bees starving; but when it came into bloom, the bees drew out fdu., made new comb, and gathered honey so fast as to encourage *any* bee-keeper. It was fun to see them humming over it from morning till night. Its common name *here* is "buck bush." J. P. MOORE.

Morgan Sta., Pendleton Co., Ky., Mar. 12, 1880.

[We have some in our grounds, and shall be prepared to report on it this season, I hope.]

Box-Hive Department.

LAST April, I bought 2 hives of bees, and had a present of one (*they were box hives*), and I thought I would see what I could do. I did not expect to do much, and intended to use the same kind of hives, which I did, only making them better; that is, putting on better tops and painting them. My 3 gave me 7 swarms; but, it being such a poor season here that only 2 out of the 7 had honey enough to winter, and not any of them having made me the least bit of surplus honey, not knowing how to feed, and not caring to increase my stock much until I know more about them, I killed all but 4, the 3 old and one new. These are doing very well so far as I can tell. The honey I sold from those taken up paid for those I bought, and for 6 hives I had made, so I am nothing out of pocket, but have 1 good strong colonies for profits.

ALFRED L. DAY.

Stockholm, N. J., Feb. 10, 1880.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, APR. 1, 1880.

Shall we receive good at the hand of God, and shall we not receive evil?—JOB, ii. 10.

JUST as we go to press, we get our first installment of the articles to be furnished by Frank Benton, dated from Trieste, Austria.

THE most beautiful piece of fern work, in the shape of a motto, that can well be imagined has been sent us by our friend Rufus Morgan, Bernardino, California.

EDWIN FRANCE, Platteville, Wis., sends us a bee-feeder that is rather an improvement on our pepper-box feeder. It is more easily made, and cheaper, and rather more convenient. We will try to illustrate it next month.

WOOD'S HOUSEHOLD ADVOCATE.

S. S. WOOD, 252 Broadway, New York city, keeps the money we sent for a percentograph, and gives us no word of reply, although we have written him three times, and waited over two months for him to get around.

ANOTHER friend, A. Froescher, Titusville, Fla., not only made a general rejoicing in our family, but among all the hands in our works, and the neighborhood round about, by sending two large boxes filled with Florida oranges and lemons. Those who did not know Florida oranges from the common sorts, soon found out the difference. Friend F., we feel grateful, even if we do not all know exactly how to manifest it.

It is a great task to make odd-sized hives, especially when we are right in the midst of the season; and inasmuch as I think it a great blunder for you to order them at any time, I would make a suggestion. Order our regular-sized frames, shipping-crates, sections, etc., and when you get them, just set them on top of your odd-sized box-hives, patent hives, or whatever they may be. To make a fit, either reduce or enlarge, as the case may be, the upper edge of your hives so they will take the ordinary Simplicity upper story, and then you are all right, and can work gradually into the uniform standard implementations.

THE counter store is just "booming." Since prices have advanced, I have been obliged many times to send you cheaper articles than I did at first, for the same money, and a few things, like the braces, wrenches, and such staples, have had to be put on a higher counter, giving you a better article, of course. But the most astonishing part of it is, that we have not yet had a single complaint. We have been so hurried it was at times impossible to make explanations, but you all seem to take it for granted, that we were doing the best we could, and for this I thank you more than I can well express. May God bless you all for your kindness!

YOU see, you sent me so many letters that I read all day, and "scratched" answers on them, and then read evenings too, and finally I read so much that my eyes felt "twisted like," and pretty soon my brains felt "twisted like" too, and I began to think of a beefsteak diet again, and another (?) trip to California. Now listen, and I will tell you what cured me: A pitcher of milk, a goblet and a spoon, two slices of Graham bread, and a Florida orange, taken three times a day (leave the pitcher, goblet, spoon, and orange-peel) and getting up at 5 o'clock in the morning. Under the above prescription my brains are clear, I read all the letters still, and don't get very cross either.

CARELESS CORRESPONDENTS.

I WONDER if it is wrong to wish to "shake" people who do not sign their names. A friend from Texas has written twice complaining that he does not get his A B C book, and not a sign of an address on either of his postals. On the last, with a great amount of trouble, we have deciphered "Texas." Another trouble: A few have asked to have GLEANINGS kept going, saying they would remit soon, and then, when they remitted, they made no mention of the fact. The result was, we sent them two copies, and, after a while, a dun. When you are paying a debt, by all means say so, when you send the money. We can not remember you here, any more than we could remember drops of rain during a summer shower. We are glad to see you, and the raindrops too, but you must tell us who you are.

EARLY AMBER SUGAR CANE SEED, ETC.

I HAVE finally succeeded in getting a quantity of the best southern grown, early amber sugar cane seed, which I can furnish for 15c per lb. If sent by mail, add 18c for bag and postage. From 2 to 3 lbs. of seed are required per acre, and I think it will pay all who raise an acre, to have the book, the regular price of which is \$1.00; but I will send it, by mail, for 75c, and include a sample of the sugar made from the early amber. A sample of the sugar will also be sent with the seed, even if you get only a 5c package. The lowest priced mills made (1 horse) are \$35.00; but a \$50.00 one is thought to be cheapest in the end. The cheapest pans are \$30.00, but any pan used to make maple sugar will answer. Above are factory prices for goods in Cincinnati; if it will be any accommodation, I can get mills or pans for you at 10 per cent off. I can mail you a price list of larger mills and pans if you desire.

HUNDREDS are wanting to buy queens, and a great many are wanting to sell them. One class offers \$2 apiece for them, and the other offers them for 50 c. apiece. They all seem to insist on having them pass through my hands. Do you not see what a glorious chance I have to make money? I am very much obliged, my friends, for the confidence you put in me, but I do not want any such profits; nor do I want so much responsibility. Will it not be just as well for you to put your names in the queen department and send directly to each other? You need not be afraid to trust each other; I know the greater part, if not all of you, are trying to do an honest business. Get some good queens raised, such as you would want to keep yourselves, and then tell me, and I will advertise, free of charge, all you have ready to send off, in the month of May. Do not be in haste to count your queens, or to sell them, until you have really got them laying; then let us hear from you, and I think there will be no lack of customers.

Our Homes.

Charity suffereth long, and is kind.—I. Cor., xiii. 4.

IT seems that there are two extremes to almost every precept in the Bible, and that it is the business of every one who strives to build his character on that solid rock, to try to choose that golden mean, which will steer us clear of the shoals of either. I presume there may be those who have too much charity; I say I *presume* there may be such, for I am not really satisfied *just now*, that any one may have too much Christian charity for his fellows. I have emphasized "just now," because—well, I will tell you why, after I have told you a little story.

Years ago, says an ancient legend, a king became desirous of knowing directly from the mouths of his subjects, just what they thought of him, and his ways of administering justice to his people. So strongly did this idea take possession of him, that he one day resolved to satisfy it by taking off his royal apparel, or at least covering it up with the garb of an humble day laborer. Accordingly he betook himself to the country, and, as a matter of course, soon fell in with a laborer returning from his daily work. In an adroit way, he drew his companion into conversation, which, ere long, was turned on the subject of the political state of the realm. Our friend, it seems, was one who not only delighted in having an opportunity of having his say, but also of "speaking out his mind" pretty freely concerning his neighbors, or anybody else in fact. When the conversation at length touched on the king himself, our friend began to censure first one thing and then the other, until he had literally picked the poor ruler of his native land into pieces, and had dwelt on every fault and failing, real and imaginary, that anyone ever thought of. You all know how some people will talk, when they "get to going" about a person or thing. Of course, *you* are not one of that kind; it is always somebody we know, and not ourselves, that does these things. Well, this poor man "got to going," and kept on, right to the king's face you know, but, of course, he never dreamed of its being the king himself, to whom he was talking, until the king could stand it no longer, and stopped him squarely. Straightening himself up, said he,

"Sir! do you know who I am?"

"No," said the man, "I do not know who you are; who are you?"

"I am the king of the realm, of whom you have just now been speaking;" and, suiting his action to his words, he unbuttoned his coarse outer coat, and displayed to the gaze of the affrighted and astonished peasant the royal insignia.

The poor man, as his countenance paled, looked down in shame, and, for a brief moment repented of his uncalled for folly in thus speaking of one of whom he knew next to nothing, and who, for aught he knew, might have been all this time the best friend he had on earth. He reflected that the prob-

ability was that he would be hung as a traitor, and all for letting his unlucky and foolish tongue run on as it had, about one who had never, so far as he knew, wronged him or his in the least. Finally, his native shrewdness came to his aid. Raising his eyes to those of his offended sovereign, said he,

"Sire king! do you know who I am?"

"No," said the somewhat amused king, at this unlooked for assurance, "I do not know who you are; who are you?"

Drawing himself up in his peasant garb, and imitating the manner of the king as well as he could, he replied,

"I am of the family of Thingumbobs!"

"Thingumbobs? Well, suppose you are; what of them?"

"Is it possible you have never heard of them?"

"Never."

"Why, I supposed that everybody knew of them. Well, this is the peculiarity of all the family and all their descendants. For centuries past, it has been well known that each and every one of them, one day in every year, is crazy. *This is my crazy day.*"

The king took him by the hand, and, as a compliment to his ready wit, forgave it all; and, although the story did not say so, I am strongly impressed with the idea, that after that the family of "Thingumbobs" did not talk about their neighbors anymore, or, at least, not more than one day in the year.

To go back to the beginning of my "dis-course," what troubles me "just now" is that I am crazy a great deal more than one day in the year. In fact I am crazy a part of almost every day. It is true, my friends, a part of almost every day my ordinary good sense seems to desert me, and it looks then right for me to do wrong things, and I do not know what would prevent my going crazy outright, and possibly raving, had I not learned by past experience to keep still, and to keep it all to myself, when these spells come on. But how do I know when I am, and when I am not crazy? This has sometimes troubled me a little, but I will tell you how I tell, and how you can tell, if you are ever disposed to have crazy spells too. When I am crazy, I am unhappy. Come to think of it, that is a pretty broad proposition; for it is quite probable indeed, that no one is happy while he is crazy. Well, there is another way; when I am crazy, I never want to pray for those I am displeased with; furthermore, if I do insist on taking myself right away into that little room of mine, and literally force myself down on my knees, and ask God to help me, I very soon get over being crazy, and get happy. In my crazy spells, I am very much disposed to censure people harshly and severely, as did the poor man the king; but I have learned by past experience, most of the time, to keep it all to myself, and so I just *think* ugly things about my best friends. I think you are not Christians, as I am; I think you are selfish, while I am liberal; I think you are thickheaded and dull, while I alone am bright and keen. If I ever got drunk, I suppose I should think all the rest of you were drunk, and I the soberest man on earth. I

see greed and little, mean things in all mankind, but I myself am alone pure in heart. Don't throw down the paper in disgust, my friend, it is only when I am crazy, when the Devil himself has got me by the button-hole that I think these things, and so I hope you will forgive me. I am sorry for it, I assure you, and I am fighting it down day by day. You know, in these past pages, I have told you how I have fought down these temptations, one after another, and how others loomed up in sight as fast as one was conquered. Well, it seems as if Satan was bound to try every string to his bow, before he lets me go, and, of late, I have thought he had massed all his forces and had rushed on me with a legion of his angels, in trying to make me uncharitable and impatient with the many friends God has given me. I will tell you a little story, to illustrate how I often whip him out, and send him off howling. I beg pardon for the language, but it is such fun to see him "licked," it seems as if that was just the right word.

An old deacon in the church who was about equally celebrated for both stinginess and piety, after hearing a "moving" sermon from his pastor, one day repaired to the smoke house, with the avowed purpose of picking out a ham to be donated to said minister. He lifted them down, looked them over, and tried in vain to find one that he thought he could spare. They all looked too good to be just "given away," and he actually began meditating about cutting in two one of the twenty or thirty hanging there. Finally the sermon came fresh to his mind again, and he recognized the presence of the "cloven hoof" that had been persuading him a whole ham was too much, and, in desperation, he resolved to give a whole one, and a nice one too. His better self suggested the best one, but still Satan urged it would be throwing away good nice hams to be so extravagant, but, for once in his life, our friend declared he would "lick," and drive out the prevailing sin of his life. He first picked out the best, and as Satan still demurred, he took the next best, and finally, when a neighbor came along and saw him heaping his hams up, he asked him what he was doing.

"Going to give some hams to the minister," said the deacon.

"But you are not going to give him the whole pile, are you?"

"Why, you see, every time I thought of giving him a nice one, Satan tempted me to think it was too much, and I finally told him if he did not 'shut up,' I would give the minister every last ham in the smoke house."

I do not know how it turned out, but I hope our friend had grit enough to carry out his resolution, if it took all the hams and the smoke house too; nay, his whole farm, and himself—soul and body; for "What shall it profit a man," etc.

Now, my friends, struggling and praying alone by ourselves is a great thing, but those who go to God in prayer earnestly will find a greater work opening out before them. I have shown you before, cases where the conditions under which our petitions were

granted were that we should go out into the world, and confide our troubles and trials to some one else. Many of you have noticed how wonderfully God has answered requests made known on these pages. Well, nothing does so much to make me proof against these tricks of Satan, as to get really earnestly at work for some poor suffering brother who has been snared by uncharitableness to the rest of humanity. In this talk, I have shown you uncharitableness in colors that would almost awaken loathing and disgust, but it was no overdrawn statement of some of the glimpses I have had of the wickedness and selfishness that I have found entrenching itself in my own heart. Beware how you get an idea, or let one slip in, that you are better than other people. Keep constantly in mind, that whatever you see in others is very likely to be found in yourself, or something else equally bad in God's sight, and you will get it, as a general thing, about right. When you get right there, you will have charity and love for the erring, and you can then do them good with a word, every time. In other words, when Satan has fled, and the spirit of Christ has taken possession of your heart, you will be led to think well instead of ill of every one, and it is far better to give a neighbor more credit than he deserves than to accuse him continually in your own heart, of that which he is not guilty. I know there is a foolish extreme of trusting even rogues with your money, but there is so little danger of that extreme, and as we are to-day dealing with law abiding citizens rather than thieves and burglars, I shall pass over that part of it for the present.

Let us have a few illustrations of uncharitableness in the actual affairs of life. I think my friends will excuse, if I suppress names and addresses.

Your card is at hand, giving me credit for 10c. Should I not have 25c.? I have worked up the bee business in this neighborhood and, last year, I sent you an order for 3,000 sections and about 30lb. of fdn., and it will be double that this year; but, I assure you I will not encourage any one to subscribe for GLEANINGS, if I only get 10c. when you give others 25c. If you can't stand the 25c. I will give you the 10c. for I think you will need it if that is the way you conduct your business. C.

Upon first reading the letter, my natural disposition inclined me to say something unkind about the writer, but it was just while I was fighting these battles, and so I said mentally, "Hold on, boys, let us see if we cannot draw out this man's better spirit;" and so I penciled a kind answer, telling him that I do try to use all alike, but that, if he insisted after having it thus explained, we would credit him the 25c. I put down uncharitableness, and see what he wrote next.

Friend Root:—In my last, I used language which, on second thought, I wish had not been written. The fact is, I had just returned from looking after my bees, and had found one dead colony. Your card was handed me when I came into the shop, and I answered when I was a little "huffy." I beg your pardon. Instead of not doing anything more for GLEANINGS, I will try to see what I can do. I am in A B C as yet.

Enclosed find draft for \$5.00. Send GLEANINGS to ———— and ————. The 10c. credit you have allowed me will pay the postage. Send as soon as convenient, and forgive me for my last hasty letter.

C.

You will bear in mind, that our friend had either overlooked or forgotten that GLEANINGS had been enlarged, and that, by our new rates, we only allow 10c for those who send us a new name, besides their own.

Our next is a sketch from real life, and by it, I most earnestly pray, I may be able to help more than one of you in the business transactions of every day life. For convenience, I will designate the three parties C, D, and E; C and D being brothers, it will be remembered.

Please give room in your Humbug and Swindle Department for the following, and charge me for the same:

C is requested to balance his account. He owes me \$30.63, since 1876 and 1877. I sent him statements which were not answered, and drew on him, but the draft came back for some excuse. I believe the name had been spelled wrong. In September I wrote to him, that, if not remitted during October, he would find his name in our bee journals, among the "dead beats." As Mr. C has shown no sign of life yet, he must not think hard of it, if his name remains in GLEANINGS from January on until he does.

E.

I wrote friend E that I would at once write C, and hoped to get an answer. The following came promptly, from his brother, and I may here remark that it is very seldom indeed, that I fail to get a reply, if my letter is kindly, and charitably indited. No one likes to be driven,—no, not even a bad man; but almost every one may be softened, if we go to work in the right way.

Yours of Dec. 11th, received. C is not at home; his health failed him 3 years ago, since which time he has spent most of his means trying to regain it. He is now in the Bahama Islands; at least, I suppose so. I have not heard from him for some time. The goods which Mr. E wants pay for, he undoubtedly should have had long ago. They were sent here to other parties, and he persuaded my brother to take them, and the goods have not been used yet; some of them have not been unpacked. As to his not answering his letters, if I am not very much mistaken, he wrote to Mr. E last July when he was at home. But should Mr. E think it advisable to publish him as a humbug and swindler, by all means let him do so. I have had some deal with Mr. E myself, and at some future time I may be able to show up his straight way of doing business.

D.

You will observe, my friends, as is almost always the case, that there was a mistake in the outset, in the above. Our friend had mistaken D for C, not noticing probably the difference in the initials. I do not mean to excuse C, by any means, for if a man is absent, he almost always selects some one, to attend to his business, and who could more properly do this than a brother? In his closing up, he turns around, and finds fault with E. I can overlook this, because it is so natural for humanity, while excusing themselves from any dereliction in duty, to look about them for something to find fault about. I know, for I am just so myself. I

sent the letter to E, and wrote him that I felt it a hard matter to put a man among swindlers who at least had been doing business fairly, and received from him the following, a copy of which was also sent D. I wrote D, urging him for his brother's sake, if nothing more, to return the goods unused, and pay for the rest. Below I give both of the letters:

In regard to C's matter I would say that the letter shows a falsehood on the face of it, when he says that those goods were unpacked yet, which he took in October '77; for in the following month they ordered of me another lot. I say "they," because C and D ordered and I had sold them goods for years. All was booked for C, because we considered him the senior, and with him our business relations had commenced. D, who did almost all the ordering in '78 and the latter part of '77, had told me that his brother was sick, etc.

I leave it to your own judgement how much truth there is in the assertion of D that part of those goods, accepted by my persuasion, in October '77, were still unpacked. May 27, '78, they sent me \$25.00 an account, also several small lots of honey, with which they were duly credited; they had shipped before and afterward. I had a good opinion of the men, and everything was satisfactory to the best of my knowledge. I could not understand why they did not make a final settlement or answer my requests.

You will please put C in your Humbug and Swindle Column, every month until their account is settled.

In order to save me some trouble of writing, I will send to D a copy of this letter. If he has not remitted to you or to me by the time you go to press, you will please grace your Swindle Column with their name. I am responsible for the consequences. E.

D writes —

Yours of March 1st received this morning, and contents noted. I will say in reply that I certainly think that Mr. E ought to have had his pay. I have no doubt but that my brother owes him. I will say farther, that when Mr. E says that my brother refused to answer his letters, that he knows better; and as to the draft, which, in his letter to you, of which he sent me a bulldozing copy, he claims to have sent to the bank here, I never heard of it, until I received his copy; and, according to his own statement if I read it correctly, he had not drawn on the person that owed him. He says in his letter of the 13th of the following month, "they ordered" &c; and "I say they, because C and D ordered." He lies like a thief! He probably never knew, at that time, that I was on the earth. And again, he says, that in '78 D ordered almost all, and told me that his brother was sick, and that he sent them goods, &c., &c. Now then, does he not know that he corresponded with C while he was in Florida, and agreed upon prices, and that his letters were sent to me. If he does not, I can very easily jog his memory so that he will remember, because I have that correspondence yet. He leaves you, Friend Root, to judge how much truth there is in my assertion that part of the goods are unpacked yet. Well, it does not make any difference to me whether he believes it or not; but to you I will say that there are three boxes that were not unpacked until yesterday, and one of them is not unpacked yet. I might follow on through the rest of his letter, but it would be useless. I cannot say

anything good about him. He knows very well that there was never any firm of C & D Bros. in the bee business, nor any other business except the harness business, and in that C was not interested. In answer to you, "Could I not return the goods unpacked?" I will say, no; I owe him nothing; yet had he sent me C's account, before he ordered you to publish him as a humbug I would certainly have paid it; and I will say to you that I will yet when he acknowledges that he has been lying in regard to this matter. I will say farther that, if he has any demands against me, I am perfectly responsible. Should you conclude to publish me as a humbug and swindler, there is no way by which I can prevent you, that I know of. You will please pardon the bad language I have been compelled to use; I was taught to call things by their right names.

D.

Stop! Stop! my friends. In the name of the Savior who died for such poor, mistaken human beings as you and I, I call upon you to stop using such harsh and uncharitable words to each other. You are neither of you liars, and have no reason in the world for calling each other such names. You are only mistaken, and, in the heat of anger, are seeing each other's faults and failings, with such eyes as Satan always gives us, when we, by some of the vicissitudes of life or business, get "out" with each other, to use a common expression. You have been friends in business, and there is no earthly reason why you should not be friends still, and go along as if this had never happened. You are both of you "crazy," for the time being, exactly as I told you, a little while ago, that I got crazy. I do not know whether either of you believe in God and the Bible or not; but, if you do, I call upon you, in the name of our Lord Jesus Christ, to throw down your arms of warfare, and be friends. If you are not believers, for the sake of the example before your fellow men, especially the boys and the younger ones, who carefully read these pages, I entreat you to forgive and forget this whole unpleasantness. Listen, and be guided just a little by one who takes an outside view of it all, and who has no prejudice either way. Do not, I beg of you, lead me to feel it is all in vain that we strive to make peace among our fellow men. You are men grown, I know; and I know, too, how hard it is to let go and give up, but, if you saw me in a quarrel, I am sure that either one of you would try to make peace if you could. I could, if it were well, take up every point you both have mentioned, and show, I think, that it is all a misunderstanding, and an unfortunate mistake. Friend D admits the money should have been paid, and he has so far confessed that you, friend E, have cause of complaint. Now, friend D, as friend E has not told any willful falsehood, please be generous enough to strike out your condition, and pay him that money. You have his goods in your hands; you say you unpacked a part of them, the day before you wrote. You surely do not want any man's goods without paying for them? If I am any judge of human nature, you are, among your friends, considered a gentleman, and wish to be fair and just before all. Come! my friends, rise up, shake hands, and be

men, and let this all drop. In the name of Him who taught us to forgive our debtors as we hope to be forgiven, I plead with you. I will go bail for the money, and if friend D does not pay it before the first of May, I will pay it for him, and trust God to make me whole in the transaction.

The following illustrates vividly how one may be led to uncharitableness, through misapprehension or mistake:

Friend Root:—I see by the Jan. number of your paper that you have given me a back-handed thrust. Your first statement, that I ridiculed the Bible and your faith in it, is false, and you knew it when you penned it. In regard to the drone business, my letter has been before you over one year. Would it not look better for you to answer the arguments therein contained, before resorting to misrepresentation and ridicule? But a man generally makes use of that he has the most of. In looking over your letters, I do not find either Quinby's or Langstroth's name mentioned, or any other author. If one has a desire to write a bee-book, it is very easy to copy from others' writings, and palm them off as his own. Well, may I return the compliment? "What do you think of such a man, my friends?" Now, friend Root, please show that a female can produce a living being without first having connection with a male, and I will stand your ridicule without a word. Of course, after the foregoing you will not expect me to take your word.

It is amusing to see you turn and twist to avoid the conclusions that one must come to on reading W. O.'s letter. He put your theory faithfully to the test, and found it false. Taking both of your statements, one would judge that he is the better Christian. Mr. Young puts the subject before you in its true light, and you admit that you can not answer his "principal arguments." It would seem then (to use a slang phrase) you ought to "dry up." In regard to my last letter, you ask, "Have you not got it a little wrong side out, friend W.?" Not in the least, sir, if your statements are *right* side out. You assert that God answers prayers. There have been tornadoes, floods, and earthquakes which have destroyed thousands upon thousands, and sometimes whole cities, and yet you think it a "small matter." But I think otherwise; and in order to test your sincerity in your own statements, that God answers your prayers, I requested you to pray that God would not send any more such public calamities to destroy or kill his own children; and I see that you dare not risk your reputation in that direction. Your statement, that God permits them, therefore "it must be right and best," would prove every evil in the world "right and best," sin included.

You seem to intimate that God is not the author of tornadoes, etc., but permits them. I can not see how that alters the case, unless he can not prevent them. Please state which way you think it is. Your paper is like an appropriation bill in Congress. A member has a personal bill that he can not get passed, and by some means gets it attached to the appropriation bill, and Congress has to swallow the obnoxious thing or reject the whole bill. Over sixty years of observation has demonstrated that a man who brags about his religion is a hypocrite. I have no faith in your prayers, and if you had, you would not quibble around so.

As you have held me up to ridicule and scorn in your paper, I claim the right to have this published

also; and you can falsify, misrepresent, and ridicule it to your heart's content. GEO. K. WRIGHT.

Cambria, Niagara Co., N. Y., March 1, 1880.

Have mercy, I beseech you, friend W. Granting that I am, as you say, untruthful, dishonest, and a hypocrite, is such language as you have used the best to make me better? Even hypocrites are sometimes reformed, but is it not by kindly telling them of their faults, rather than by harshness and such severe censure? Why, friend W., do you support my journal, or have anything to do with me, if I am so base? I assure you, I had no intention of giving you a thrust of any kind when I wrote what I did in the January No. I only remembered that some one of you was skeptical in regard to the drone theory, and as I could not remember the name, which I must have in order to find the letter, I gave it from memory, never dreaming that the criticism in the same article was from the same person. If you did not mean to ridicule the Bible, I beg pardon, for I certainly so took it. I certainly have not, in my book, extracted or copied from Quinby or Langstroth, but I have simply verified their statements in my own apiary. If you will pay me a visit, friend W., I will raise some queens, confine them to their hives, without any sort of a drone, until they lay eggs, and you and I see those eggs hatch; will not that be conclusive? Will it not convince you, without your needing to take my word? I sincerely hope W. O. is a better Christian than myself, friend W.; but *Christians* never compare themselves in that way. If, in studying astronomy, I should find myself unable to compute how far space extends, should I "dry up," and throw away my books and telescopes in disgust? I can not fathom tornadoes any more than I can space; but I know our Father in heaven does all things for the best. At this very minute, I am informed that a little child for whom we have been praying is dying. Shall I be so presumptuous as to think I know better what is for the best than He who rules over all? When our petitions are in accordance with his divine purposes, I know our request will be granted; and, as I pray for you this minute, my friend, that you may have more charity for your fellows, it is with the "Thy will, not mine, be done." Your sixty years of observation I believe to be right on one point at least. A man who brags about his religion is generally a hypocrite; and, if I have bragged about mine, I shall soon be found out and go down out of sight, as hypocrites generally do, sooner or later. Have I ridiculed or misrepresented, friend W.? I assure you I have not meant to do so.

"ALMOST THOU PERSUADEST ME TO BE A CHRISTIAN."

Friend Root:—It seems to me that I must come over, spiritually, into your Home Department. My life thus far has been full of trials and tribulations. It seems sometimes as though everything is against me; and when things seem to be most encouraging, and promising good results, the end is nothing but partial success or entire disappointment. There have been times when I would almost embrace extreme skeptical views, and I don't know but that, had it not been for the influences of home, of Chris-

tian parents, and now a Christian wife, I would have been an extreme doubter. I have been a swearing man, perhaps not so publicly as some, but just as wickedly. I have had wicked thoughts, envious feelings, and told untruths. I have *always tried* to be honest, but a few years ago I advertised an article, and, failing to make a *good* article, sent a poor one, and sometimes none at all, and kept the money. My conscience has never let me rest easy over it. My conscience has also troubled me greatly over an act I committed when a boy. I was not over thirteen years of age. I was in church during communion service with other boys, and took of the bread as the good deacon passed it to me. I did not take the wine, and the venerable deacon gave me a look that I shall always remember. Now, some may think that a small thing to be troubled about; but God condemns it in severe terms. It is a most solemn occasion, and if the Israelites were killed outright for disobeying God's commands, why may we not also be punished for our most unworthy and wicked deeds?

Now, friend Root, though others have abused you for your confessions in the Home Papers, I have found much consolation in knowing that a sinful mortal like myself has found peace and happiness, and forgiveness too, by following the teachings of the Cross.

It begins to dawn upon me now, that perhaps all my trials have been placed upon me in order that I might see my true spiritual condition. For the past few years I have been trying to pay off several debts that are upon our property. These were not accumulated wholly by myself, but my now aged father became unfortunately involved, and mortgaged his farm, and instead of becoming lighter, our debts have grown, and now the holder of the mortgage wants to get hold of our property, and is disparaging its value, and throwing out insinuations about us personally. Now we are brought face to face with the fact that we must put our trust in God, that we may charitably pray for this man and put faith in that passage of Scripture so often quoted in your Home Papers, and which is continually in my mind—

"Commit thy ways unto the Lord; trust also in him, and he shall bring it to pass."

Now, there is an honorable way out of our embarrassment, if the Lord will kindly aid us in our efforts. My prayers have been for an honorable means, and in my prayers I firmly resolve to seek the kingdom of God. Lately, encouragement seems to come, and I am resolved to knock, that the way and door of salvation may be opened unto me. My wife has prayed for me for several years, kneeling as she retired to rest. I have been indifferent, or appeared to be, to her prayers, but now I am resolved to kneel with her and ask God's blessing. Now, friend Root, I feel that I need *your prayers* and your faith to aid me in my spiritual and temporal efforts, that I may, above all, become a Christian, and hold steadfast to the great truths of the Bible. My only excuse for taking so much of your valuable time is, that "Out of the fullness of the heart the mouth speaketh." Hoping God will give you continued prosperity in your good works, I remain—

Fraternally yours, ALPHA.

March 7, 1880.

May God help you, friend A., to become firmly "rooted and grounded" in the faith that passeth not away. You are on the right

track, and if you follow, as a little child, the voice that will now guide and direct you, your life will open up and broaden into new beauties and joys that you never before dreamed of. Be humble and patient. Hold to the idea that "all things work together for good," and go on your way. Of course, you have made up those small amounts of money sent you, for which you did not give an adequate equivalent. Be thorough, and do your part well; leave no duty, even the smallest and most insignificant, undone, though it takes the very bread out of your mouth to do it. Trust God, not your weak, feeble efforts, and in due time you shall reap a harvest, if you faint not. Certainly we will pray for you.

Friend Novice: You will perhaps think it a little strange that I should let my subscription expire for so short a time and then renew. Well, the reason was just this:

A friend was in trouble, and could not meet his obligations. I believed him to be an honest man, and a true and faithful Christian, as he was an earnest Sabbath School worker. He had been my assistant superintendent for two years, and on account of his professions, perhaps, of Christianity, I trusted him, and gave him the little help that my name afforded, assisted him out of trouble, and felt glad that I was able to do so. To-day he is in the Black Hills, and I have had to pay his obligations. This has crippled me for a time financially, but the worst to me is the stain on his Christian character, and the painful effect it has on the community which he has left; and I will admit that the struggle to pay his obligations has not been as hard as the struggle to retain my faith in my fellow-Christians. O, why will a professed Christian so conduct himself, as to do a lasting harm to Christianity? But the struggle is over; his debts are paid with my hard earnings; and I can truly pray that God will bless and prosper him in his far off home. W. L. K.

Well and nobly done, friend K. Your friend probably made some foolish investment, and then yielded to the temptation to flee from his difficulties, rather than to stand his ground and face them like a man. In all probability, he is even now full of resolutions to pay every cent, but past experience teaches that after a man has once shirked responsibilities, as he has done, he seldom holds on to his good resolutions, even if he gets the means. There is no disguising the fact, that such cases are damaging to the cause, but while they do occur now and then, I must think they are not very common. While I have known quite a number to run off to avoid their debts, I have never personally known one to do so, who was a faithful and consistent Christian worker.

A word before closing from our friends who trusted God:

Am cheerful and happy; will write you particulars. W. M. OLDROYD. Columbus, O., March, 27, 1880.

Dear friend Root:—We feel so thankful, but we can never tell it in words. My husband wrote to Mr — of — thanking him for his great kindness; it came through God's help and yours. What a kind letter from Mrs. A., and to think God has raised us up such friends. Mrs. G. S. B. March, 29, 1880.

Mr. — is the man by whom God sent me the \$500! His messenger, truly.

Honey Column.

Under this head will be inserted free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away, to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25cts., we can furnish little boards to hang up in your doorway, with the words "Honey for Sale" neatly painted. If wanted by mail, 10c. extra for postage. Boards saying "Bees and Queens for Sale," same price.

I HAVE about 200 lbs. of extracted honey in jugs, and 80 quarts in quart fruit jars, which is for sale. The jugs will probably ship best.

D. C. UNDERHILL.

Seneca, La Salle Co., Ill., March 6, 1880.

I have $\frac{1}{2}$ barrel of light golden honey, last year's crop, which I will sell at 7 c. per lb., delivering the same at the steamboat or railroad here. Will send sample if required. W. M. L. GORDON.

Shreveport, La., March 11, 1880.

I have a 20-gallon barrel of extracted, white-clover honey, for which I will take 10 c. per lb., delivered at depot at Gettysburg. Barrel thrown in.

AARON I. WEIDNER.

Bigler, Adams Co., Pa., March 12, 1880.

I have several hundred pounds of extracted honey yet to sell.

J. H. TOWNLEY.

Tompkins, Jackson Co., Mich.

I have 35 cases of Comb Honey, averaging about 25 lb. each, which I would like to get 20 c. for here. Cases are glassed on both sides. Also 30 gal., in a barrel, of Extracted Honey nearly as white as lard, and about as hard, which I will put on board cars here for 10 c., if purchasers will pay for barrel \$1.60, or return the same. THOS. C. STANLEY.

Jeffersonville, Wayne Co., Ill., March 12, 1880.

J. H. Martin, Hartford, N. Y., has for sale 500 lb. of Comb Honey, in one-pound sections. Mar. 19, 1880.

We have 146 colonies of bees in house. We extracted last summer 5,000 lb. of honey, which we are selling at 15c. per lb., and have about 1,200 lb. yet besides one bbl. of dark, Tennessee honey, which we are keeping to feed with, if necessary.

P. W. MC FATRIDGE & SON.

Carthage, Ind., Feb. 7, 1880.

CITY MARKETS.

CINCINNATI. — *Honey*. — We have advanced prices in honey on account of the advance in glassware to the following: Best White-clover Honey in bbls. and half-bbls., 10 @ 11 c. Ditto, in 1 lb. ars, per dozen, \$2.20; per gross, \$25.00. Ditto, in 2 lb. jars, per doz., \$3.75; per gross, \$42.00. Ditto, in $\frac{1}{2}$ lb. tumblers, per doz., \$1.50; per gross, \$16.50. Poplar, Buckwheat, Linden, and fall honey in bbls., 8 @ 9 c.

Comb Honey not much in demand, with no stock in the market. CHAS. F. MUTH.

Cincinnati, O., March 22, 1880.

NEW YORK. — *Honey*. — Best white Comb Honey, in small neat boxes, 17 @ 18 c.; fair ditto, 15 @ 16 c. No dark honey in market. Strained Honey, 90 @ 95 cts. per gal. Extracted Honey, white, 10 @ 11 c.; ditto, dark, 8 @ 8½ c.

Beezwax — Crude, 23 @ 25.

A. Y. THURBER.

155 Duane St., New York, March 22, 1880.

CHICAGO. — *Honey*. — The market is well supplied with honey, and with the demand only fair, prices are weak. Good to choice comb in small boxes is salable at 16 and 18 c. per lb. and common to only fair lots range at 12 and 14 c.

Beezwax, — steady at 20 and 22 c. per lb. for good to choice yellow, and at 15 and 16 c. for common dark-colored to fair lots.

THOMAS G. NEWMAN & SON.

974 West Madison St., Chicago, Ill., Mar. 22 1880.

ST. LOUIS.—*Honey*—Our honey market is pretty nearly bare of any good comb honey, and prices are as follows: Choice comb, 1 to 2 lb. packages, 70 cents. Broken comb and medium grades, 15 @ 16 cts. Extracted, fair, sells at 8 @ 11 c.

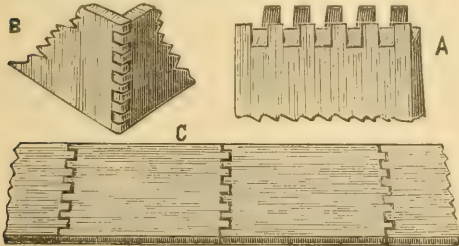
Beeswax—21 @ 23, and not much here.

R. C. GREER & CO.

No. 117 N. Main St., St. Louis, March 22, 1880.

A NEW WAY OF MAKING DOVETAILED SECTIONS.

HERE is a novelty in the way of tools, and if it were not for the new one-piece sections, I suppose it would make quite a sensation. After you once understand it, it seems almost ridiculous to think no one ever thought of it before.



HUBBARD'S DOVETAILING MACHINE FOR SECTIONS.

A is a steel stamp, or, rather, double row of chisels. C is a strip of wood, such as we use in making sections. Now, if you place A on C and hit a clip with a mallet, C is cut as shown in the figure; and, without separating the pieces, you can fold it around in the shape shown at B. As the chisels must be curved on their inner edges to prevent breaking the corner, when turned properly, has a rounded appearance; that is, it has the corner taken off. It seems to me that this would be a beautiful and handy tool for cabinet-makers, for making one box or drawer at a time, for this corner, when put together with glue, would finish up nicely. Friend Hubbard uses it with a foot-power press, similar to that given in the A B C at the close of "Hive-Making." On this plan of making sections, too, a patent has been claimed, but I have no doubt but that our friend is the original inventor. Here is what he says in regard to it:

Friend Root,—about *that patent*. You want to know if the plan is my invention. I think it is. I never saw or heard of any plan like it until I made the one I am now using. I made it two years ago, and have cut my sections with it for the last two summers. A great many bee-men have been here to see it, and they would say, "Why don't you get it patented, Mr. Hubbard?" I told them I would not get it patented; that they might make a machine and cut their own sections, but did not want any one to patent it. Would you be so kind as to let me know who claims the invention or patent on it?

ROBERT HUBBARD.

Chester, Eaton Co., Mich., Jan. 16, 1880.

The letter was distributed, friend H., and I have lost the man's name and address. He sent a rough piece of wood showing the work of the machine, and said he owned half of the U. S., and wanted to sell it to me. Such is "patents."

DEPOSITORY OF *Blasted Hopes,*

Or Letters from Those Who Have Made
Bee Culture a Failure.

I HAVE saved but 4 hives out of 50, wintered in the cellar with rotten squashes in it!

A. PICKERILL.

Beulah, Colorado, March 5, 1880.

I have some 50 colonies of bees, and have had about as many for the last fifteen years, but have never received any benefit from them, except sufficient honey for my family use. They have been managed, so far, by disinterested parties, and in the old box-hive.

WM. L. FOSTER.

Belmont, Gonzales Co., Tex., Feb. 5, 1880.

Whew! Fifty colonies of bees for fifteen years to give a body honey enough to eat in the family! Are we to understand that you paid the "disinterested" party a salary besides, friend F.? I do not think I should want to warrant that every colony of bees would give a clear profit of \$50.00 a year, as Mrs. Cotton does; but if 50 colonies did not pay one dollar each, and all expenses, besides honey for the family, every year, I would give up bee-keeping pretty quick.

Bees were a complete failure; yes, worse,—a big item of expense. Last fall, most did not have a pound of surplus. Nearly all the box-hives, and those in frames which were not fed, are dead. We put 2 and 3 together, and fed sugar. Ours are all right so far. We have about 97, I think, and about 2 hives full of comb for every colony, with section-boxes, etc., enough for 2 or 3 years. We expect to feed sugar whenever the bees are not getting honey, and try one year more, and then, if they don't pay, propose to *brimstone* the bees, sell the wax, and split up the hives for kindlings. I don't propose to lose any more money on the things. Just now I have a letter asking about a communication in the Feb. No. As I have written nothing to you for a long time, and have not seen the number referred to, I do not know exactly what he means. But if anybody asks you about anything I have ever said or written, just tell them for me that bees are a "delusion;" the biggest kind of a little "humbug;" a cheat that will draw more money out of your pocket than they will put in, taking a series of years together; a useless stock that accumulates on your hands, which you can not sell. Last fall I offered mine at \$2.50 per colony, and could not sell one. One of my neighbors has 22 hives full of nice bright comb, which he offers for \$1.00 each,—8 frames, American size, oak hives, poplar or pine lid. How is that for profit? Ours have wintered well so far on summer stands, with top covered with No. 2 manilla paper, which makes them airtight, and bees do not eat it through. It is the cheapest covering, even if you throw it away every spring.

The reason I don't subscribe for GLEANINGS is, I am not able. I have taken from 2 to 4 journals for the last ten years, have lost money in the long run, and propose to "go it," in the future, on past reading, past experience, old hives, old combs, last year's section-boxes, and grape sugar. Do you

think it will pay? Our surplus in past years has been from the Spanish needle; but a different and more improved mode of farming has eradicated it from our fields, and I think this section will not pay until some new plant takes possession of our fields. We have but little pasturing land, and will never have white clover. All our lands are available farming lands that farmers can not afford to pasture or allow to lie idle. Hence bee-pasturage is a failure.

JOHN F. LAFFERTY.

Martinsville, Clark Co., Ill., Feb. 16, 1880.

Never mind the bees, friend L.; "let 'em slide." We'll pay you a salary to keep up this department, and to keep the boys from getting too great an idea of bee culture.

We will pay 10c. each, for April Nos. of last year.

THERE! we have, this 31st day of March, 4274 subscribers.

PARKER's machine for fastening in fdn. pleases us more than it did at first. I think we will pay him another \$5.00 for his invention. See illustration in March number.

We have a very pleasant and wholesome article of grape sugar from the Davenport factory, which we can sell for 4½c. in 50lb. boxes; 4¼c. in 110lb. boxes, or for 4c. in barrels of 475lb. We will ship it from here or the factory, at the above prices.

I WANT some brooms for the 10 c. counter. Who will make us 1000 brooms for \$80.00? If there is a broom-maker among you who will try it, send me a sample by express of what you can do. Let it be strong and serviceable, what there is of it.

MILTON KRUM, of Hurleyville, Sullivan Co., N. Y., furnishes wooden potato-mashers and rolling-pins, solid handle, for the 5 c. counter; also a larger sized potato-masher, revolving-handle rolling-pin, beef-steak mauls, and towel-rollers for the 10 c. counter.

I HAD proposed keeping the "counter store," only in the price list, for the future, but it has become a topic of so much interest, and seems to be doing so much good, I give it you once more, and omit the voluminous monthly contents to give place to it. If you don't like it, "scold," and then I will do "t'other way."

PRICE OF A B C BOOKS.

The price of the A B C book, in paper, is the same as for a year's subscription to GLEANINGS, and it may be counted with GLEANINGS in getting clubs. The price in cloth is 25c. more. Above are prices by mail. If ordered by freight or express, deduct 13 and 15 c. per copy respectively.

CONVENTIONS.

1880.

April 15.—Central Mich. Bee Keepers' Association. Semi-annual meeting, in Pioneer Hall, in the new Capitol, Lansing, Mich.

April 28.—Marion Co. Bee Keepers' Association, at Knoxville, Iowa.

DURING this month I will pay \$1.00 each for daughters of imported mothers that have just commenced to lay, and \$1.00 per pound for young Italian bees. Blacks or hybrids, 50 c. per pound. They are to be delivered here alive, charges paid. Test your skill in putting them up, by sending a few the first time. I can not say what I will do in May, or whether I shall buy at all.

FOR those who have inquired about tools for making queen-cages, I have obtained some very nice expansive bits, to bore holes of any size you wish. The prices are as follows: No. 1, boring from 1 to 1½ in., \$1.75; No. 2, boring from ¾ to 3 in., \$2.50. If wanted by mail, add 5 and 10 c. respectively for postage. We have a very nice patent grip-brace to hold them, or to hold any bit, for 75 c. If wanted by mail, add 27 cents for postage.

PLANING-SAWS.

We have one running in our saw-room that cuts even smoother than almost any planer. Of course, it does not cut as fast, but where your stuff does not need to be of very accurate thickness, it is quite a saving. You can run the saw either backward or

forward, and it is a cut-off or bevel saw, just as good as any, without any stopping and changing. We have accepted the agency of them, and can give you any size from four inches up, for just twice our regular list prices.

We have to-day received from friend Given a sample frame filled with fdn. made on his press. It takes about 1-5 of a pound of wax, and the fdn. is after the Dunham style. Some pieces that had been worked out by the bees showed that the whole of the wax had been drawn up, so that the base looks precisely like natural comb. By omitting the wires, he makes beautiful fdn. for comb honey on the same press. I have ordered a press.

We have just purchased of Byron Walker, Capac, Mich., some very nice honey that he calls raspberry, and we have all decided in favor of raspberry honey at our house. It cost us 11 cents, and, after paying freight, we retail it in those five-cent pint tin pails, with covers, for 25 c. a pailful. This gives us about 14 c. per lb. Those pails with covers are certainly the nicest thing for candied honey, and, if you buy them in nests of different sizes, they are not so very bulky. With some cheap tin, a few tools, and our soldering outfit, a bee-keeper can soon learn to make his own tin pails, during winters and rainy days.

LIGHT BREAKING ON THE MAILING QUEEN-CAGE.

FRIEND NELLIS has amended his queen-cage by substituting a tin bottle instead of one of glass, and Prof. Cook says, in last *Exchange*, he can see no objection to it. I think we should here remember Mr. Langstroth's queen-cage pictured in May GLEANINGS for last year, for his tin bottle is the principal feature in it. If water can be sent in this way, I will put in two bottles, and furnish you all the cages you wish, for 10c. each, or a dollar a dozen. As we make a good strong cage, with plenty of "ventilators and drink," to last in case of accidental delays, the postage will be 4c. each cage. If I were sending bees by express, I should fill one of the bottles with honey.

NEEDLES.

During our electrical experiments a few evenings ago, with my class of boys, I called for a large needle. As it was handed me, I was struck with the extreme beauty of its finish, oblong eye, and delicate taper. On attempting to break it, I found the temper so nicely adjusted, that it would neither snap as needles often do, nor bend as those of too low a temper do; in fact, I began to think I could not break it. When it broke, I found by examining, that it had bent first, very slightly. The needle came from a package costing 25c., and my wife says she never saw anything equal to them. She got them in this way: a boy called at the door, and handed her a small white envelope, saying "please examine, and I will call to-morrow." The envelope contained 5 papers of these excellent needles (25 needles each), besides a larger paper containing 2 steel tape needles, 3 long cotton darners, 2 extra fine cotton darners, 2 wool, 2 yarn, 1 worsted, 1 motto, 2 carpet, and 3 button needles. And this whole lot, was only 25c. Of course, she took them at once, as did nearly all the neighbors. The boy might easily have sold a hundred papers in our town in a day. I found the packages cost him 15c., by the hundred. Pretty good business, for a boy or girl either; do you not think so? Well, when I sent the Co. a copy of my paper and told them what I wished to do, they gave me a price in quantities, so that I can furnish any of you as above. To show you what they are, we will send a paper for 5c., or the whole package of 6 papers for 25c.

BEES FOR SALE!

30 strong colonies, in Simplicity hives, metal cornered frames, with plenty of brood and honey, at \$4.00 each. MRS. T. I. FIERMAN.

Merrimac Point, Illinois.

Dollar Italian Queens

Sent by mail, April and May, \$1.00; after, 90 c.

H. BARBER, Adrian, Mich.

BEES BY THE POUND!

For Price List of Italian Queens, and Bees, send to E. M. HAYHURST, Kansas City, Mo.

Continued from page 150.

10	Dust Pans, Japanned.....	95	9 00
2	Envelopes, Bunch of 25, such as we use	75	6 00
2	Files for Cross Cut and Hand Saws.....	85	8 00
2	" Double-Enders. This is price of File only; price of Handle is given in 5 c. Counter.....	95	9 25
11	Foot Scrapers.....	75	7 00
2	Fruit Knives, White Metal Handle, Steel Blade, all Nickel Plated, would have been considered a few years ago very reasonable at 50c.....	98	9 50
5	Funnels, Quart, Just right to pour Honey.....	85	8 00
8	Garden Trowels, Steel.....	90	8 75
4	Glass Cutter, with Knife Sharpener, Corkscrew and Can Opener.....	95	9 00
1	Glue, Peter Cooper's, Liquid with Brush.....	90	8 00
4	Hammers Small for Nails.....	65	6 00
9	" Magnetic.....	90	8 50
16	" Full Size.....	65	6 00
8	Hatchets, Bronzed, Geo. Washington	90	8 50
1	Ink Powder for Cheirograph, best.....	85	8 00
12	Knife Trays.....	98	9 50
8	Lunch Box, Tin, Japanned.....	95	9 25
10	Mallets, Wood, excellent.....	85	8 00
18	Maple Sugar Bee Candy, in 1 lb. bricks. Good for Bees and Children.....	98	9 50
10	Molasses Cups, Japanned, Nice for Honey.....	95	9 00
1	Nut Pick, all Nickel, very pretty.....	95	9 00
5	Oilers, Zinc, Spring Bottom.....	85	8 00
2	Pails, ½ size, Painted, 2 Hoops.....	95	9 00
4	Pocket Levels, to be Put on a Square.....	85	8 00
2	" Knives, 1 Blade, American. Good, Ebony Handles, fine steel blade	95	9 00
"Knives came all right, and we have three happy boys." R. H. RHODES.			
Arlinda, Colorado.			
3	Prick Punches, best tempered steel.....	85	8 00
11	Potato Masher, Large.....	55	5 00
6	Quart Measure, Tin.....	95	9 00
24	Rolling Pins, Revolving Handle.....	75	7 00
1	Rule, 1 Foot, Box-wood, Pocket.....	100	10 00
2	Scissors, same as 5c, but larger.....	75	7 00
10	Scoops, Tin, for "scooping".....	75	7 00
2	Screw Drivers, Wood Handles, Strong and Nice, 7½ inches Long.....	90	8 50
3	Screw Driver, metal Handle, nickel Plated.....	95	9 00
7	Shears, 9½ Inches, excellent for 10c.....	85	8 00
8	Sieves, Wood Frame, Wire, Round.....	95	9 00
3	Soap Stand, Silvered Wire.....	90	8 50
11	Streak Pounders, turned of wood.....	65	6 00
3	Steels for Sharpening Knives.....	85	8 00
11	Taffy Pans, Right for making Bee Candy in small lots.....	85	8 25
5	Tin pail, with Cover, 2 Quart.....	97	9 50
7	Tin Pans, Plain or Milk, 4 qt.....	95	9 00
Just think of it, a fair size, very pretty milk pan, for 10c.			
10	Tin Cake Pans, Scallop, 10 inch.....	95	9 00
1	Tooth Brushes, good quality.....	85	8 00
10	Twine, Strong Flax, ½ lb. Balls.....	95	9 00
2	Twine Cutter, to screw on your counter. Very handy for Clerks and Merchants.....	85	8 00
10	Waiters Plain, Japanned and handy because they are small.....	95	9 00
6	Wash Basins, 10 in., pretty and useful	95	9 00
23	Whetstones.....	85	8 00
21	Wooden Bowls, 1 foot wide.....	85	8 00

USEFUL ARTICLES

THAT CAN BE SOLD FOR

Twenty-Five Cents.

8	Bell, Dinner, Brass.....	2	10	20 00
18	Braces, Carpenters, with set screw	2	10	20 00
1	Brushes, Paint, very fair for Paint- ing Bee Hives.....	2	25	20 00
7	" Whitewash.....	2	00	18 00
2	Caliper Rule, ½ foot, brass lined.....	2	25	22 00
4	Compasses, Carpenters, Good.....	2	10	20 00
17	Coal Shovels.....	1	40	12 30
20	Dinner Pails, with cup and coffee Dish.....	2	45	24 00
8	Files, Best for Circular Saws, 6 in.....	1	80	17 50
	Garden Rakes, malleable iron.....	2	25	22 00
22	Hammers, Adze E., Polished, Car- penters, Excellent for the Money.....	1	50	14 00

8	Hammers, Metal Handle inlaid with Walnut.....	1	60	15 00
19	Hatchets, Painted Red.....	2	10	20 00
	Hoes, boys' size, best steel, riveted blades.....	3	50	33 00
	" ladies.....	2	40	23 50
	Honey, Raspberry or Clover, in pint Tin Pails, with Covers.....	2	50	25 00
0	Knives, 2 Blades, Fine Quality, American Heavier than above.....	1	90	18 00
	" "			

USEFUL ARTICLES

THAT CAN BE SOLD FOR

FIFTY CENTS.

3	Caliper Rule	4	25	40 00
	Carpenter's Squ's, good, but not steel	4	50	44 00
27	" Braces, pat. grip, 8 inch.....	4	50	42 00
25	Cheirograph, Complete, 5½x8¾, Ink Pad, &c. See page 10, Jan. No.	4	50	40 00
	Garden Rakes, malleable iron, with iron braces.....	4	25	40 00
11	Hammer, Fine Steel, Finely Finished, although rather small, it is the very best Hammer that can be bought	4	25	40 00
16	Hand Saws, 18 inch; Very Neat, Made of Fine steel	4	00	37 50
33	Hatchets, Good Steel, well finished.	4	00	35 00
	Hoes, fine steel, riveted blades.....	3	50	33 00
23	Planes, All Metal, Full Size.....	4	25	40 00
	Lanterns.....	4	50	44 00
10	Measuring Tapes, 50 Feet, Fine.....	4	25	40 00
2	" 36 in., Soring with stop, Nickel Case, very Handsome, a beautiful present for a Lady	3	50	30 00
5	Magnifiers, 2 Lenses, on 3 brass feet	4	50	42 50
16	Pruning Shears, Excellent.....	4	50	44 00
16	Screw Driver, 20 inches long.....	3	75	35 00
This is so large and strong, that in an emergency, it will do nicely for a small handspike or crowbar.				
10	Shears, Fine, Solid Steel Blades.....	4	00	38 00
	Shovels, for Boys, Steel.....	4	00	38 00
	" Men	4	50	44 00
10	Stereoscopes.....	4	75	45 00
26	Vises, Iron, Parallel Jaws, 1½ in. wide.....	4	75	45 00
To screw on a Table or bench, Very handy.				

SWEET HOME APIARY.

ITALIAN BEES AND QUEENS FOR SALE BY
OTTO KLEINOW,
Opposite Fort Wayne, Detroit, Michigan.

"W. O.'S" INK.

In 2 oz. bottles, black, violet, or blue, in $\frac{1}{4}$ gross boxes, per gross..... \$4 00

In quantities of 5 or more gross, \$3.50 per Gross.

In Pint Bottles, per doz.....\$3 00

In Quart " " 6 00

In Gallon Jugs " " 12 00

Green and Red ink are necessarily more expensive, and the price will therefore be *one half* more.

Liquid Bluing, in 6 oz. bottles, per doz..... 50
gross\$5 40

I will send $\frac{1}{4}$ gross, 2 oz. inks, assorted colors, black, blue, violet, and one bottle each of green and red, as a trial order for \$1.00.

WM. OLDROYD, Columbus, Ohio.

P. S. by Novice.—If it is more convenient, where you are ordering goods of me, I will try to fill small orders at the above prices.

Now, boys, we can all have good, plain ink, if we can not have good writing, and we can help W. O. out of trouble. The colored inks are very pretty for a postscript, or for any passage in a letter to which you wish to call particular attention.

P. S., No. 2.—Why, just think of it! we can sell all of the bottles, red and green too, on the 5c counter, if we choose; and even the bottles of bluing, for *only five cents*, if the express or freight charges are not too "awful" much.

IMPROVED

Langstroth Hives.

Supplies for the Apiary. Comb Foundation a specialty. Being able to procure lumber cheap, I can furnish Hives and Sections very cheap. Send for a circular.

A. D. BENHAM,

2tf4

Olivet, Eaton Co., Mich.

APIARIAN SUPPLIES FOR NEW ENGLAND.

The undersigned will be prepared to furnish Bee Hives, Comb Foundation, White Poplar Sections, Italian Bees, &c., at lowest rates. Send for price list before purchasing elsewhere.

WM. W. CARY, JR.,

4-3d

Colerain, Franklin Co., Mass.

IMPORTED QUEENS!

We shall have a shipment of fine Tested Queens from Italy, this month, selected for our apiary. Circulars and prices free.

LEWIS A. BEST,

4-5d

Best's, Lehigh Co., Pa.

Raspberry Plants by Mail.

Davison's Thornless, Mam Cluster, Doodlitte, Seneca, Kirtland, Herstine, and Philadelphia, at 50 cts. per doz.

P. SUTTON, Ransom, Lack'a Co., Pa.

J. M. Brooks & Bro's. GOLDEN ITALIANS.

FINE TESTED QUEENS OUR SPECIALTY.

Send for circular and see what others say of them.

3-9d

COLUMBUS, IND., BOX 64.

EARLY OHIO POTATOES.

I have had many different kinds of potatoes, and after 4 years' experience with the *Early Ohio*, I find that no other do as well. I will ship them at following prices: per bbl., \$3.50; per bu., \$1.50; per pk., 65c.

Alsike Clover and Silver-Hull Buckwheat, I also sell and ship. I also manufacture and sell DUNHAM FOUNDATION. Cash paid for *Beevoet*. For pure Italian Bees and Apiarian Supplies, send for circular.

Address

ERNST S. HILDEMAN,

4

Ashippun, Dodge Co., Wis.

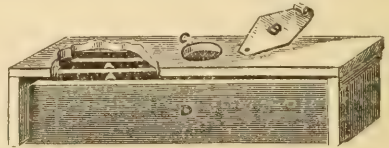
A GOOD OFFER.

KING'S

BEE - KEEPERS' MAGAZINE,

A live, first-class, monthly paper, devoted to Bee Culture in all its branches—

PRICE, ONE DOLLAR PER YEAR. AND



SHUCK'S BEE - FEEDER,

approved by leading apiarists, exceedingly simple, convenient, and effective; thousands are in use, and no complaint: *feeds equally well at front entrance of hive or top of frames with no danger of robbing from its use.* Price by mail, 30 cents each.

BOTH of the above for One Dollar; now is the time. Address,

J. M. SHUCK,

4d

Des Moines, Polk Co., Iowa.

BEES WANTED!

100 lbs. or more delivered safe at Omaha, Neb. Address with price and full particulars,

4

H. MUNGER.

BIG PAY for introducing **BUCK-EYE CHURN**. Address E. F. BEARD, Republic, Seneca County, Ohio.

FOUNDATION PRESSES

FROM \$15. TO \$40.

Foundation made in wired frames a success. Send for our prices on Hives filled with Wired Foundation; also prices of Wired Foundation. Common Foundation, Italian Queens, &c., &c. Circular and samples free.

D. S. GIVEN, Hoopston, Ill. 4

QUEENS!

Tested Queens, daughters of Imp. Mother, in May, \$2.00; after June 1, \$1.50. Home bred tested, in May, \$1.50. Hybrids, 60c. Purity and safe arrival guaranteed. J. A. WARD, Madisonville, Ham. Co., O. 4d

A Few Reliable \$1.00 Queens

At \$1.00. Tested, \$2.00. Bees, \$1.00 per lb. Heavy combs, 12x14 in., shipped with bees, 20c each. Tested Queens before June 1st, \$2.50. Comb Foundation made to order. *Sample free.*

H. R. BOARDMAN, East Townsend Huron Co., O.

STANDARD POULTRY & ITALIAN BEES!

P. Rocks, & L. Brahmas Exclusively.

Fowls { \$5.00 per pair } **Eggs** { \$2.00 per 13 }

{ 7.00 " trio } { 3.50 " 26 }

ITALIAN BEES IN SIMPLICITY AND CHAFF HIVES.

Stock first class and satisfaction guaranteed.

3-5 N. H. ALLEN, Kirkwood, St. Louis Co., Mo.

BEES FOR 1880.

We will furnish Full Colonies, Nuclei, and Queens **CHEAP**. Satisfaction guaranteed. For circulars, address

S. D. McLEAN & SON.

3-8d

Culleoka, Maury Co., Tenn.

BEES FOR SALE IN APRIL!

Good, healthy swarms of Italian Bees, at \$6.00 each, in good, painted, 8 frame hives. Inside size of frames, 9 $\frac{1}{2}$ x17. Delivered on board of the cars, in good shipping order.

3-4d

Eureka, Win. Co., Wis.

ALBERT POTTER,

RUBBER STAMPS

DATING, ADDRESSING, BUSINESS,
LETTER HEADS, ETC.



No. 1.



No. 3.

Address only, like No. 1, \$1.50; with business card, like No. 2, \$2.00; with movable months and figures for dating, like No. 3, \$3.00. Full outfit included—pads, ink, box, etc. Sent by mail postpaid. Without ink and pads, 50c less.

Put your stamp on every card, letter, paper, book, or anything else that you may send out by mail or express and you will save yourself and all who do business with you "a world of trouble." I know, you see.

We have those suitable for Druggists, Grocersmen, Hardware Dealers, Dentists, &c., &c. Send for Circular. A. I. ROOT, Medina, Ohio.



No. 2.

1880. Everett Bros. 1880.

Everett's Honey Extractors and Everett Langstroth Hives a specialty. We challenge competition in quality and price. Our circular and price list of Apian Supplies, Italian Bees, and high class Poultry sent free. Address: EVERETT BROS., Toledo, Ohio.

CYPRIAN, ALBINO, AND ITALIAN BEES,

AT PRICES TO SUIT PURCHASERS.

I am prepared to furnish, Cyprian, Albino and Italian Queens, bred from imported and select home bred mothers, warranted pure, safe arrival guaranteed. Send for price list before purchasing elsewhere. Address: LEVI R. LASH,

Summit Station P. O., Schuylkill Co., Pa.,
3-8d or HENRY C. HEISLER, Minersville, Pa.

18 Years' Experience

In propagating Queen Bees from Imported mothers from the best districts of Italy. Persons purchasing Queens or swarms of me will get what they bargain for. Send for circular. WM. W. CARY, Itfing Colerain, Franklin Co., Mass.

Albino and Italian Queens, Full Colonies, and Nuclei, at Reasonable Prices.

I am prepared to furnish early Queens—Pure Albinos, and Italian Queens bred from imported and select home-bred mothers, warranted to be pure. Safe arrival guaranteed. Also Hives, Root's Extractors, and Apian Supplies generally. Send for Price List, &c. Address: S. VALENTINE,

3-8d Double Pipe Creek, Carroll Co., Md.

DADANT & SON.

COLONIES.

With Imported, tested, Italian queen.....\$13 00
" home-bred 9 00

Hybrids and blacks in movable frame or box hives.
Have wintered over

100 IMPORTED QUEENS,

and will continue to receive 2 shipments every month from May to September.

ROOT AND DUNHAM FOUNDATION.

The purest and brightest yellow foundation made. Hives, Extractors, Cans for uncapping, Veils, Smokers, Pails, Jars, Knives, &c.

Send your name on a postal card for circular and sample of foundation free.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Foundation 45c

I am prepared to furnish Foundation Comb, in large or small quantities, at the above price per lb. I will also work up wax at 20c per lb., or half the wax. All work guaranteed to give satisfaction. I use only pure beeswax. F. J. FARR,

4d Independence, Jackson Co., Mo.

ITALIAN BEES FOR 1880.

I will sell 3 frame nuclei, with tested queen, before June 20, for \$4.00; after June 20, \$3.50; after August 1, \$3.00. These nuclei will be well stocked with brood and bees, and contain young, profitable queens. Cyprian Queens.—I believe myself, so far, the only one in the U. S. who has these valuable and beautiful bees in purity. Descriptive Circulars sent free. JULIUS HOFFMAN,

1-6 Fort Plain, Montgomery Co., N. Y.

EGGS FOR HATCHING.—From first class Plymouth Rocks and Brown Leghorns, warranted to be fresh and true to name: \$2.00 per 13, securely packed. Address: JONATHAN COTNER, Chippewa Lake, Medina Co., O.

Will Sell, or Trade for Bees,

One Three-horse Boiler and Engine, and Saws for Hive-making. Everything complete and brand new. Address: WM. DEWORTH, Bordentown, N. J.

SEND FOR CIRCULAR

and Price List for Simplicity, and One-story Simplicity Chaff Hives. Address: C. H. DEANE, Sr., 2-5d Mortonsville, Woodford Co., Ky.

FOR FOUNDATION

MADE OF PURE BEESWAX,

3-5 Address: JAS. A. NELSON, Wyandott, Kan.

ITALIAN BEES & QUEENS!

Send for Price List of full Colonies, Nuclei, Queens, Bee Hives, Comb Fdn., and Bee Keeper's Supplies generally. Satisfaction guaranteed.

4 A. F. STAUFFER, Sterling, Whiteside Co., Ill.

1880. 1880.

ITALIAN QUEENS & NUCLEI.

Single Queen, Tested.....\$2 00
Untested (Laying)..... 1 00

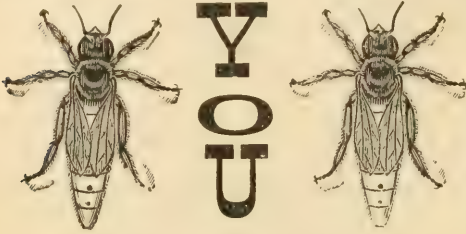
Sent by mail.

Nuclei, 1 frame, Langstroth size..... 2 00
" 2 " " "..... 2 50
" 3 " " "..... 3 00

Tested Queens, per doz.....20 00
Untested "..... 10 00

Safe arrival guaranteed.

Address: W. P. HENDERSON,
3-8 in q Murfreesboro, Tenn.



Should Read Our

Apiarian Catalogue for 1880!

It will **PAY** you to do so. Write your name, and those of your friends who keep bees, on a postal card, at once, and direct it to

H. A. BURCH & CO.,

3-5d

SOUTH HAVEN, MICH.

CLEAR AHEAD!

WE LEAD IN SMOKERS.

Our new invention of a

DOUBLE BLAST

Smoker is pronounced the finest improvement ever made on smokers. No more sparks or ashes in the hive. Doolittle says: "The arrangement to change the draft so as to make it a cold blast after the fire is kindled places it ahead of any smoker in the market by a long way." So say all who see and test it. Don't fail to see an illustration and description of it.

Prices, large 2½ inch tube, \$1.50; medium, 2 inch tube, \$1.25; small, 1½ inch tube, without double blast attachment, 75 cents. Dust box and extra nozzle with large size, 25 cents extra. By mail 25 cents extra each.

QUINBY'S NEW BEE-KEEPING,

BY L. C. ROOT.

This is the most practical work published. It contains 100 illustrations including an excellent portrait of M. Quinby. Price, by mail, \$1.50.

We sell everything used by practical bee-keepers. Send for illustrated circular.

L. C. ROOT & BRO.,

Mohawk, Herk. Co., N. Y.

4d

FOR SALE CHEAP.

200 COLONIES ITALIAN BEES.

Having over 450 colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100, or 200, at \$5. delivered on board of any Mississippi River steamboat. All the queens are daughters of Imported mothers from two districts of Italy. All in newly painted movable frame hives.

PAUL L. VIALLO.

3fd

Bayou Goula, La.

1880 Queens! Queens! 1880

Pure tested Italian queens, from choice imported mothers, April and May, \$2.50; afterwards, \$2.00. Untested queens, \$1.00. Safe arrival guaranteed by mail. Send in your orders early, as I live 10 or 12 miles from the railroad. The mail comes twice a week to my apiary.

HALL & CHENY,

Fern Cliff, Jackson Co., Ala.

3-5d

BINGHAM & HETHERINGTON.



You can lean on a Bingham Smoker in the hour of trial. One match per day, and wood of any kind, is all that's needed. It needs no fussing or cleaning or dampers, as it works just as well pointing down as up, and never goes out. Previous to my invention and patent, the draft to all bellows smokers was through the bellows; now, all bellows smokers use an open draft. The largest and most scientific bee-keepers use Bingham Smokers, some using as many as fifteen in their various apiaries.

No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give satisfaction; but we have received hundreds of letters expressing the most unbounded satisfaction and appreciation of our invention. Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons, is it? Patented January 9, 1878; re-issued July 9, 1878.

The extra large Smoker and the Extra Standard for 1880 will have our new extra-wide shields, which entirely protect the hands and bellows from heat, and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement.

The Bingham & Hetherington Patent Uncapping Knife is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical, and scientific bee-keepers in Europe and America pronounce it "the best honey-knife ever made."

Extra Large Smokers.....	2½ inch,	\$1.50
Extra Standard ".....	2 " "	1.25
Plain ".....	3 " "	1.00
Little Wonder ".....	1¼ " "	.75
" ".....	Per ½ doz.....	3.00
Bingham & Hetherington Knife.....		1.00
Knife and Cap-Catcher.....		1.25

If to be sent by mail, or singly by express, add 25 cents each, to prepay postage or express charges. Send for circular. If to sell again, apply for dozen or half-dozen rates. Address T. F. Bingham or

BINGHAM & HETHERINGTON,

4d

OTSEGO, MICH.

PRIZE BRED ESSEX PIGS.

Essex are the best farmers' pig; have been known to dress 90 per cent of live weight; are small bone and light offal; quick to mature. Jos. Harris, author of "Harris on the Pig," etc., says of my boar "Porter," that he is the "finest Essex pig he ever saw." A few Pedigree Pigs for disposal, (farrowed Feb. 23, and March 1, 1880) at moderate prices, suitable for breeding or exhibition. Personal inspection of my stock is solicited. All correspondence will have cheerful and prompt attention.

4-6d

C. W. CANFIELD, Athens, Pa.

N. B.—A limited number of eggs for hatching from my prize winning Brown Leghorns, and Black Red Bantams, at \$2.00 per 13, warranted to hatch.

HEADQUARTERS for the Best Queens and Colonies in the U. S. As I make Queen rearing a specialty, I guarantee to those ordering from me, exactly what they bargain for. Circulars free.

3-5d

D. A. PIKE, Smithsburg, Wash. Co., Md.

300 COLONIES BEES FOR SALE!

Come to Council Bend, Ark., on the Miss. River, and buy 300 Colonies of Bees. I am determined to sell.

2-4

GEO. B. PETERS.

VERDICT BY JURY.

12,000 Patent Bingham Smokers sold.
 Otsego, Mich., Apr. 10, 1880. T. F. BINGHAM.

T. F. BINGHAM, Otsego, Mich. Dear Sir:—The large smoker came duly. Have tried it and like your improvements very much. It is now all that could apparently be desired.
 T. G. MCGAW.
 Monmouth, Ill., April 12, 1880.

J. M. Brooks & Bro's.

GOLDEN ITALIANS.

FINE TESTED QUEENS OUR SPECIALTY.

Send for circular and see what others say of them.
 3-9d COLUMBUS, IND., BOX 64.

QUEENS! ITALIAN QUEENS!

Bred from queens of my own importing, sent by mail; safe arrival guaranteed. Discount on order of ten or more, ten per cent. If any prove hybrid, another will be sent. From May 10th to June 1st, \$1.25. From June 1st to July 1st, \$1.10. After July 1st, \$1.00.
 CHAS. R. BINGHAM,
 5d Edinburg, Portage Co., Ohio.

TESTED QUEENS MAY 15TH \$2.25.

53 OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

"THE WAY I DO"

sent to all who intend buying queens this season. Send name and address to BURLEIGH R. PAXSON,
 5 Mingo, Cham. Co., Ohio.

FOUNDATION.

After the 15th of May, I will furnish Comb Fdn. at the usual prices. Send on your orders.
 5d C. R. CARLIN, Findlay, Hancock Co., O.

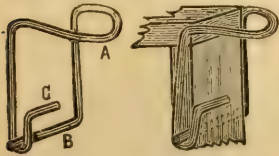
Lower Than Ever To CLOSE OUT!

A lot of Section Honey Boxes 4½x14½; a Foundation Machine 9 inch. Root's make; a lot of Italian Bees and Queens raised from imported mother.

Address—FISCHER & STEHLE,
 5d Marietta, Wash. Co., Ohio.

TESTED QUEENS AT LOW PRICES

I will sell a few tested queens about the last of May at \$3.00 each.
 J. H. TOWNLEY, Tompkins, Jackson Co., Mich.

**MARTIN'S**

wire support for frames. Cheapest support in use; durable and just the thing. Sample by mail, 6 cts; 30 cts. per lb., 100 in a lb.

TRY OUR ITALIAN QUEENS!

Send for price list. Bees by the pound, nuclei, or colony. Circulars of our Bees, Queens, and Novelties sent free. Address—

4-9d J. H. MARTIN, Hartford, N. Y.

BEEES AND SUPPLIES.

Send for Circular and Price List to O. H. Townsend, manufacturer of the Challenge Bee Hive, adapted to the use of the American, the Gallup, and the Root frames. Italian Bees, Nuclei, and Queens from imported stock.
 O. H. TOWNSEND,
 5d Hubbardston, Ionia Co., Mich.

SIMPLICITY

CHAFF, AND STORY AND HALF, HIVES,
 SECTIONS, FRAMES,
 DUNHAM FOUNDATION, & C.
CHEAP.

5 Workmanship superior. Manufactured by
 MERRIAM & FALCONER, Jamestown, N. Y.

DECISION.

This One Piece Section, heretofore called the LEWIS SECTION, has been involved in an interference, in the Patent Office, at Washington, between James Forncrook and Lewis & Parks, and the Commissioner decided Priority of Invention in favor of James Forncrook. Send for Price List.

5d JAMES FORNCROOK & CO.
 Watertown, Wis., May 1, 1880.

SAVE YOUR FOWLS FROM CHOLERA
 &c., and get Price List of Pure Bred Poultry and Eggs for Hatching, Italian Bees, &c., by addressing
 J. R. LANDES, Albion, Ashtand Co., Ohio.

ITALIAN \$1.00 Each---Good Stock.

REV. W. H. STEELE,
 5d Kossuth, Alcorn Co., Miss.

QUEENS AND DUNHAM COMB FDN. at 50c
FOUNDATION. per lb., in quantities of 10 lbs. or less, or 48c per lb. in large quantities. Postage and express charges not included. Also, Queens from imported mother; tested, during May and June, \$2.00; untested, \$1.00.
 5d J. R. PARK, La Vergne, Ruth. Co., Tenn.

A BARGAIN
 A Barnes Foot Power Saw, just new.
 Address Box 298,
 5-6d Tyrone, Pa.

FOUNDATION PRESSES

FROM \$15 TO \$40.

If prices wanted on copper dies alone, send size of frame.

Foundation made in wired frames a success. Send for our prices on Hives filled with Wired Foundation; also prices of Wired Foundation. Common Foundation, Italian Queens, etc., etc. Circulars and Samples free. D. S. GIVEN, Hoopeston, Ill. 5d

FOR SALE CHEAP.**200 COLONIES ITALIAN BEES.**

Having over 450 colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100, or 200, at \$5. delivered on board of any Mississippi River steamboat. All the queens are daughters of Imported mothers from two districts of Italy. All in newly painted movable frame hives.
 PAUL L. VIALON,
 3tfd Bayou Goula, La.

CLEANINGS AS AN ADVERTISING MEDIUM.

Mr. Root:—Please recall the advertisement you put in March No., for I cannot supply one half the demand.
 LIZZIE MCCONNELL.

Ripley, O., March 22, 1880.

Enclosed find P. O. order for one dollar to pay for advertising, for which accommodation I am very much obliged. I have had several applications for my boiler and engine already.
 W. DE. WORTH.

Bordentown, N. J., Apr. 7, 1880.

ADVANCES IN PRICES DURING THE MONTH, ETC.

Glass has "gone up" the worst of any one thing. In fact, it is making mischief wherever glass enters at all. Glass that was sold a year ago for \$2.00 per box, is now worth \$5.00 per box. In consequence of this, I have had to raise the price of the crate for our story and a half hive, and of all our cases for comb honey. Tin has come back a little, but the very thin taggers tin that we were so much pleased with for separators has remained up, so that we have had to drop it. In its place we use I C roofing, coke wasters, that we sell at \$7.50 per box of 212 sheets 14x20. Extractor tin is worth \$12.00 for sheets of same size. Nails have gone up and gone down; by purchasing in ton lots, we are now prepared to furnish them at factory prices, to those who buy by the keg of 100 lbs. By doing this, we have been enabled to furnish some of the sizes of wire nails even lower than we did last fall. Many of our supplies we have been enabled to lessen in price, even during the recent great advances, by purchasing directly from the makers, and in large lots. We print a new edition of our price list almost every month, and will send a new one at any time, on application. The new goods that have been added to the counter department during the past month are given below, but for a full list of the counter goods, fully illustrated, with latest prices, see our price list mentioned above. When, in the January No., I mapped out the outlines of USEFUL ARTICLES FOR A SMALL AMOUNT OF MONEY, I did not dream that, in a few short months, it could possibly grow to its present proportions.

RECENT ADDITIONS TO COUNTER STORE.

USEFUL ARTICLES THAT CAN BE SOLD FOR FIVE CENTS EACH.

TERMS OF PAYMENT—Strictly Cash With Order.

All Prices Subject to Change without Notice

	Postage on each.		Price of	
			10	100
2		Easels of Silvered Wire, to Hold a Photograph.....	48	4 75
2		Hanging Baskets, Silvered Wire.....	47	4 50
4		Oil for Sewing machines and other light machinery, in handsome bottles	45	4 00
1		Handkerchiefs, good size, fine, and neatly hemmed.....	40	3 75
6		Pliers, flat nose, of Chilled Iron, like the 5c scissors, but excellent for the money.....	45	4 00
4		Salt or Pepper Bottles, glass, white metal top.....	45	4 00
1		Sponges, good size.....	40	3 50
2		Rules, 36 in., 9 fold, a very handy tool and a source of unfailing amusement for the baby.....	45	4 00
3		Trellises for flowers, painted green, very pretty.....	48	4 50
2		Willow Work Baskets, 4 inch, pretty and strong.....	45	4 00

USEFUL ARTICLES

THAT CAN BE SOLD FOR

TEN CENTS EACH.

3	Papers of Pins, best quality.....	80	7 50
5	Buggy Whips, good for the money....	98	9 50
2	Measuring Tapes, Spring, in Brass case, 26 in.....	75	7 00
4	Night Lamps, with shaded chimney This lamp furnishes the best light for working with the microscope of any I have ever used.	80	7 50
8	Oil Cans, 1 quart.....	98	9 50
7	Nut Crackers, stout, will crack Hickory nuts.....	95	9 00
5	Towels, tastily fringed and striped, and just the thing, with a 5c wash basin, to "set off" the honey house	98	9 50

5	Tack Claws, Polished Steel, Enameled Handles.....	95	9 00
2	Willow Work Baskets, 5 inch.....	60	5 50

OUR "15 CENT" COUNTER.

In consequence of the advance on many 10c articles, this has been rendered almost a necessity.

17	Coal Shovels, with long handles,	40	12 30
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3	Files for circular saws, 5 in. (see cut	45	14 00
2	Rules, 2 Foot, Pocket, Box-wood....	1 25	12 00
5	Thermometers, Best, 7 inch, Ruby tube.....	1 30	12 50



7	Weeding Hook, Tinned to Prevent Rusting, a most convenient Tool for working among Plants.....	1 20	11 00
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Brooms, full size and very good for the money..... 1 40 13 50

8	Hammers, Magnetic, all metal handle, a beautiful tool.....	1 25	12 00
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1	Knives, Ladies, Ivory handle, 1 blade.....	1 25	12 00
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Sir:—My little knife came to hand last night and the whole family want one. Please send three more, all white handled.
H. H. Fox.

Tribulation, McDonald Co., Mo.

4	Willow Work Baskets, 6½ inch.....	1 00	9 00
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USEFUL ARTICLES

THAT CAN BE SOLD FOR

Twenty-Five Cents.

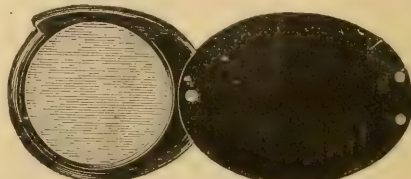
	Brooms, best quality.....	2 30	22 50
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2	Morton's Silver plated pen case and pencil.....	2 00	18 50
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For Pen for above see 50c counter.



11	Box Scraper, Excellent for Clearing Bottom Boards, Etc., from Wax and Propolis.....	2 25	20 00
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1	Magnifying Glass, in very pretty rubber case, to carry in pocket.....	2 25	20 00
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6	Willow Work Baskets, 9½ inch, pretty and useful.....	1 50	13 00
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USEFUL ARTICLES

THAT CAN BE SOLD FOR

FIFTY CENTS.

16	Carpenter's Level, and Plumb combined, a most beautiful tool, Imitation Rosewood, 14 in. long.....	4 50	40 00
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- 1 Morton's Gold Pen, "Magic," no case 4 25 | 40 00
For case see 25 and 75c counter.
12 Spring Balance, with Tin Dish, Suspended by Three Chains, 24 lbs. 4 00 35 00

Seventy-Five Cent Counter.

- 27 Carpenters' Braces, Patent Grip, 10 inch Sweep 60 58 00
5 Pliers and Wire Shears combined 6 50 | 60 00
This is a most useful tool, well made, and of excellent steel and temper.
8 Shears, 9 inch, Solid Steel Blade, Nickel Plated 6 75 | 65 00
This is the best and prettiest Pair of Shears, I think, I ever saw; they would be beautiful for a present for your wife or mother, or any other lady.
2 Morton's Gold Pen in Silver plated case and pencil 6 50 | 60 00

ONE DOLLAR COUNTER.

- 64 Cheirograph, Foolscap Size, 8½x12½ 7 00 | 60 00
With this size we give a 2 oz. Bottle of Best Ink.
12 A B C Book in Paper 6 30 | 60 00
15 Cloth bound, 25c more, each book.
3 Morton's Gold Pen in Gold Plated Telescopic Holder 8 75 | 80 00
2 Tea Spoons, 3 oz., Solid Coin Silver, with your Name or Initials neatly Engraved thereon 9 50 | 90 00
At this rate a set of 6, will cost \$5.70. If you take them without engraving, \$5.25 only.

IMPROVED LANGSTROTH AND SIMPLICITY AND CHAFF HIVES.

Having enlarged my facilities for the manuf'g of Bee Hives and Section Boxes, I shall be able the present season to furnish the trade with better goods and for less money than any house in the West. Please send for Price List.

5d A. I. ROOT, Medina, Ohio.

Mollie Heath Honey Plant.

We have at last succeeded in getting some seed of this beautiful plant, which is described on page 148 of GLEANINGS for 1879. The seed is flat and bean-like. As we have but a few, in order to make them go around, we offer them postpaid, at 5 cents each. To Canada, 2 cents extra.

A. I. ROOT, Medina, Ohio.

BEE-KEEPERS' SUPPLIES!

JOHN DETWILER & CO., Toledo, O.,

MANUFACTURERS OF

HONEY COMB FOUNDATION,
AND DEALERS IN

APIARIAN SUPPLIES.

Send for circular. We have something new. 5-9d

ITALIAN QUEENS.

All bred from imported mothers of my own importation. Dollar queens, \$1.00; ready in April. Tested queens before June 1st, \$3.00; after, \$2.50. Full colonies of Italians from \$7.00 to \$10.00. Four frame nucleus with tested queen, before June 1st, \$5.00; after, \$4.50. Comb Foundation, Bee-Keepers' Supplies, &c. PAUL L. VIALLO, Bayou Goula, La. 3tfd

18 Years' Experience

In propagating Queen Bees from Imported mothers from the best districts of Italy. Persons purchasing Queens or swarms of me will get what they bargain for. Send for circular. WM. W. CARTY, Ithaca, Colerain, Franklin Co., Mass.

Hale's Price List.

Send for my Circular and Price List for 1880. Early Queens a specialty. Address 2-11d E. W. HALE, Wirt C. H., W. Va.

HEADQUARTERS FOR APIARIAN SUPPLIES.

Steam Power. New machinery complete. Our facilities for manufacturing Hives, Crates, Sections, &c., are first class. Before ordering, tell us what you want. We can do you good. Comb Foundation, Extractors, Knives, Smokers, &c., constantly on hand. Full Colonies and Nuclei a specialty. Send for our new System for Wintering Bees Successfully. HIRAM ROOP, 4tfd Carson City, Montcalm Co., Mich.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st. If wanted sooner, see rates in price list.

- *E. W. Hale, Wirt C. H. W. Va. 1-12
- *A. I. Root, Medina, Ohio. 1-12
- *H. H. Brown, Light Street, Columbia Co., Pa. 7-3tfd
- *E. M. Hayhurst, Kansas City, Mo. 1-12
- *Paul L. Viallon, Bayou Goula, La. 1tfd
- *King & White, New London, O. 12tfd
- *F. J. Wardell, Uhrichsville, Tusc. Co., O. 12-12
- *J. R. Landes, Albion, Ashland Co., O. 1tfd
- *J. E. Walcher, Millersville, Christian Co., Ill. 1-6
- *D. A. McCord, Oxford, Butler Co., O. 2-1
- *D. E. Best, Best, Lehigh Co., Penn. 2-8
- *R. Robinson, LaCade, Fayette Co., Ill. 3-8
- *S. F. Newman, Norwalk, Huron Co., O. 3tfd
- *C. C. Vaughan, Columbia, Maury Co., Tenn. 3tfd
- *S. W. Salisbury, Kansas City, Jackson Co., Mo. 3-8
- *S. D. McLean & Son, Culleoka, Maury Co., Tenn. 3-8
- *S. D. Moore & Co., Atlanta, Fulton Co., Ga. 3-8
- *T. G. McGaw, Monmouth, Warren Co., Ill. 3-8
- *R. Thomson, Terry, Hinds Co., Miss. 3-8
- *Lewis A. Best, Best, Lehigh Co., Pa. 4-9
- *J. B. Bray, Lynnville, Giles Co., Tenn. 4-9
- *J. W. Newlove, Columbus, Franklin Co., O. 4-7
- *H. T. Bishop, Chenango Bridge, Broome Co. N.Y. 5-7
- *O. H. Townsend, Hubbardston, Ionia Co., Mich. 4-9
- *Thos. E. Price, Baden, St. Louis Co., Mo. 4-8
- *Oliver Foster, Mt. Vernon, Linn Co., Iowa. 4tfd
- *M. G. Keeney, Quercus Grove, Switz. Co., Ind. 5
- *John Conser, Glenn, Johnson Co., Kansas. 5
- *I. R. Good, South West, Elkhart Co., Ind. 5-10
- *J. M. C. Taylor, Lewistown, Fred. Co., Md. 5
- *B. Marionneaux, Plaquemine, Iberville Par., La. 5-5
- *Ila Michener, Low Banks, Ontario, Can. 5-10
- *J. J. Swartwout, Union City, Branch Co., Mich. 5-7

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

- A. I. Root, Medina, Ohio.
- P. L. Viallon, Bayou Goula, Iberville Par., La. 1tfd
- Milo S. West, Pontiac, Oakland Co., Mich. 1-6
- A. A. Fradenburg, Port Washington, Tus. Co., O. 1-6
- T. F. Wittman, 318 N. 6th St., Camden, N. J. 3tfd
- S. F. Newman, Norwalk, Huron Co., O. 3tfd
- Sprunger Bro's, Berne, Adams Co., Ind. 4-2
- J. F. Hart, Union Point, Greene Co., Ga. 4-3
- J. W. Newlove, Columbus, Franklin Co., O. 4-6

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

MAY 1, 1880.

No. 5.

A. I. ROOT,

Published Monthly.

Publisher and Proprietor.

Medina, O.

Established in 1873.

TERMS: \$1.00 Per Annum, in Advance; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75c each. Single Number, 10c. Additions to clubs may be made at club rates.

NOTES FROM THE BANNER APIARY.

No. 6.

CLEANING WAX FROM UTENSILS WITH KEROSENE OIL.

PERHAPS it was fortunate that friend Boardman did not know how easily he could have removed the "nickel plating" of beeswax from his wife's clothes boiler, by using a cloth saturated with kerosene oil; because, if he had known it, he might not now be the possessor of such a nice wax extractor as he describes on page 60, of the Feb. No.

THE BLUE THISTLE IN YORK STATE—NOT MICHIGAN.

On page 58, of the Feb. No., Mr. Clark Simpson, of Flushing, Genesee Co., Mich., has a few words to say in regard to the blue thistle, and speaks of getting seed for you if you wish it; and you, very naturally, inferred that he meant that the blue thistle had found a home in Mich. Now, I am well acquainted with friend S., having been to his house a great many times, "gleaning" information on bee-culture and—well, I suppose I might as well own up—I persuaded his only daughter to believe that I was the smartest, handsomest, "bestest" young man that she ever knew, and she is now Mrs. W. Z. H. One of her brothers writes as follows: "The blue thistle that father wrote about grows in York State. We don't want any of it here." You see Father S. used to live "down east," and it is probably from there that he would obtain the seed.

We have nothing but the bull thistle in this vicinity, a specimen of which I sent to Prof. Cook, together with a few inquiries in regard to thistles in general. The following is his reply:

The common thistle which you sent is the *Cirsium lanceolatum*. This is the bull-thistle. A quite common blue-thistle introduced from Europe is *Centaurea Cyanus* or blue-bottle. This latter is a honey plant. The former is not valuable. I think Mr. Simpson could not have meant Canada thistle. That is purple, not blue. And were it so common, he would have known it to be the terrible pest that it is. Canada thistle is *Cirsium arvense*.

Lansing, Mich., Feb. 13, 1880. A. J. COOK.

UNCERTAINTY OF BUCKWHEAT.

In the seasons of '77 and '78, there were a few small "patches" of buckwheat near me, and the bees did so well working upon it that they not only filled their brood combs but furnished a little surplus. In '79, I sowed an acre of low, rich land to buckwheat, and it grew so large that about 1/4 of it

"lodged," or fell down. The weather was so hot and dry that it did not furnish honey enough to feed the bees and their brood while it was in blossom. I harvested 15 bu. of buckwheat.

SILVER HULL BUCKWHEAT.

D. N. Kern, of Shimersville, Penn., writes that in '78 he sowed 4 qts. of silver-hull buckwheat upon 1/4 acre of land, from which he obtained 12 bu. of buckwheat. I should consider this an extraordinary yield. If any one of the readers of GLEANINGS has had any experience with this variety, I should be glad to hear from him, either by letter or through GLEANINGS. Novice, what has been your experience?

ALSIKE CLOVER NOT INJURED BY FROST.

I notice that my Alsike clover is not injured by the alternate freezing and thawing that we have had this open winter, while considerable of my red clover lies "top o' the ground."

QUEENS BY MAIL.

In regard to sending queens by mail, I do not quite agree with Prof. Cook in thinking it of more importance for us to follow the letter rather than the spirit of the law. We could easily conform to the letter, and yet evade the spirit, and *vice versa*; but I presume friend C. would have us follow both the letter and the spirit, which would be all right if we could do so with safety to the queens. I cannot help thinking, however, that some of friend C.'s teachings do not "hang together" very well; i. e., they do not quite agree. The postal rules state, very plainly, that liquids as well as glass are unmailable, and yet friend C. says that glass in the cages would spoil it all, but to a tin tube filled with water he can see no objection. Doesn't this seem a little inconsistent? I trust that friend C. will excuse these frank criticisms, as they are made with the kindest of feelings, and with the thought that it is mainly to him that we are indebted for the ruling in our favor.

The postal authorities, very wisely, exclude liquids and glass, as there are many careless people in the world, but *both* of these substances (and many other unmailable substances) can be, and are, put up in such a manner that they may be sent by mail with perfect safety. The instructions to postoffice employees state that the queens "must be put up in accordance with section 223, and so soon as they are found to injure the person of any one handling the mails, or soil the contents of the pouches, this order

will be rescinded." Now the spirit of this orde is that the queens must be put up in such a manner that they do no harm, and we can very easily follow the spirit and yet have water in the cages; and, to my mind, the best way of doing this is with a small tin tube filled with water, or else a large tin tube containing a sponge saturated with water. I should be the last one, however, to wish to do anything to forfeit the privilege granted by the postoffice department, as, if we can do no better, we can send queens short distances by mail and long distances by express.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

HEEDLESS CORRESPONDENTS.

ALSO SOMETHING ABOUT DISHONEST ONES.

MY friends, while we are working to the very uttermost to serve you, you can not think what an annoyance it is to us, as well as to yourselves, to have you do business in such careless and awfully "slipshod" ways as many of you do. It is not because you are ignorant and do not know any better, but because you let things slide without looking to see whether you are blindly blundering or not. Will you not, when writing letters, and especially when sending money, look over your letters just before sealing, and see whether you have given your name and address, and your express office as well as post-office. I will give you a few of your own letters.

Mr. Root:—I have sent you \$5.00 to pay for ———.

Pay freight or return balance in letter. I want one gross of Mason's glass jars, self sealing, assorted sizes, from ½ gal. down. Let me know price and I will send the pay.

DR. J. E. MOBLEY.

No. 9, M. & E. R. R., Ga., April 3, 1889.

This man, as you see, is a doctor, and yet he has sent his money, and given an address that is of no earthly use. In fact, we carried his goods over to the express office, to see if they could not send them, with such directions. The express companies have had their share of losses, growls, and perhaps abuse, and they therefore wisely, perhaps, have decided to receive no package, unless the county, as well as the town and state, is given. On the man's envelope we found "Lumber City," but this only shows that he posted his letter at that post-office. If that should be his residence, we have got to hold his goods until we get a reply. A great many of these orders are for seeds, and by the time the matter is hunted up, the season for sowing them is past. Here is another, for seeds, too:

Mr. Root:—I send you the stamps for a peck of your best buckwheat, and I want you to send it as soon as you receive this. Some of my neighbors want some, and are afraid to send for it. If you send me mine, you can sell to them. I hate to doubt a man until I test him. No more at present. Direct your letter to Bayborough, Pamlico Co., N. C.

You see this friend is testing us, to see if we are honest; very likely he will decide, that "that Root, with all his home talks, is a thief and a swindler after all." We have several times, long afterward, heard from those who omitted their name, and never

wrote afterward, taking it for granted that everybody was dishonest except their poor selves. If you do not get a reply, as a general thing, in a week, send us a postal with your name and address on it, and see if that don't bring a reply. The friend above takes time to say "No more at present," and to tell us where to address our letter (?), but even then does not give his name. Below is another which contained a dollar, but not a scrap of writing, except what we give:

Moundville, W. Va., April 12, 1889.

Mr. A. I. Root:—Send as follows. \$1.00 enclosed. If I have made any mistake in postage, leave out something.

1 Glass Cutter.....	14
1 Magnifying Glass.....	26
3 Inks, red, blue, and green.....	20
1 Chamois Skin.....	13
1 Rule, 1 foot, pocket.....	11
1 Brush, paint.....	26
	(99)

Whatever does ail you, to do things in this way! Here is one more:

A. I. Root:—Herewith I send you P. O. order for \$——, for which please send me by express the following goods: ———

Canton O., April 10, 1889.

P. S.—I here give you the size of my hand, which you see is pretty large.

E. H. W.

You see this man adds a postscript, and, at the end of that, puts his initials, or at least two of them, and then makes a scrawl for the third, that may be either a "W," a "K," an "N," or something else. Do you wish to know why we care so much about that last initial? I will tell you. If we can find the town, we go to the subscription list, and see what subscribers we have there. Then we hunt up those subscriber's letters, and compare the handwriting. If not alike, we write to our subscribers of the same place, or to the P. M., asking if they know a bee-keeper who would be likely to send us money. If we have the name, or even the initials we consult our ledgers containing from 3,000 to 4,000 names, then our distributed files of letters, often going back a year or more in the search, and occupying so much time, by a careful skilled clerk too, that it more than spoils the whole profit on the transaction. In fact, in deciding how low I can sell you goods, I often have to compute the expense of looking after these—shall I say "pests" of business? A rubber stamp will save all this, or even having your address printed on your envelope, but how few comparatively will take even this trouble?

In the March No., one of our number proposed, in a little advertisement, to help you in this matter; see what encouragement you have given him:

ADVICE WANTED.

Friend Root:—I am in trouble. That little advertisement of mine, in March No. of GLEANINGS, brought me some work. Well, you say "That is what I wanted." But wait a moment. The first response was a postal asking me to print to order an envelope with the writer's business card, then if he found it satisfactory he would "order" some. The

second was a postal, whereon it was stated that a certain person had sent me 50c. in stamps for 100 envelopes, and he supposed I had overlooked his order, as the same had not been received. Response No. 3, just received, is a postal claiming that some one had sent me money for 100 envelopes as per "ad." in GLEANINGS, and wanted to hear from me by return mail in reference thereto. These three postals are all I have to show for the money I paid you for inserting my advertisement. The trouble is, how am I to know that any one really sent me money? If I had received several dozen letters containing money, in response to the advertisement, and among them these growling postals, I might fill their orders anyhow. Now what ought I to do? This might again be used as a proof of "man's inhumanity to man," when a poor invalid like myself tries so hard to make an honest living, and finds that his fellow men reward him by trying to get him to fill orders that he never received, or—what are we to think of it?

Vistula, Ind., Apr. 13, 1880.

S. P. YODER.

It certainly is true, friend Y., that "an enemy" has got in among us, and it behooves us all to set to work earnestly to get him out. The innocent have nothing to fear, but the guilty may well shake in their shoes. God's mighty arm is with us, and the truth will come out, as it did in regard to the mail robberies a year ago. We have the names on a book, of all who have claimed to have lost money, and yet refuse to reply in regard to our requests for half price, after we have sent them the goods. Now, will dealers in supplies, and our brother editors, give me the names of those who claim to have sent them money, which was lost? or, better still, send me their letters? for there is a peculiar hand-writing (over different signatures) coming from the post-offices of a certain county, which begins to come out pretty prominently.

Now, boys, can we not let friend Y. know that the readers of bee journals are by no means all dishonest, even if his experience has been a little discouraging? Will not at least those who have so often omitted to sign their names give him an order for envelopes, and that, too, for more than a single one as a sample?

A SHORT CHAPTER ON MICROSCOPES.

ALSO SOME NEW DEVELOPMENTS IN REGARD TO BEE STINGS.

WHEN a boy, and about as soon as I was old enough to read anything about the wonders of the unseen world which microscopes were said to reveal, I was almost crazy on the subject. I began my first investigations with some of my grandmother's spectacle lenses; and when a little older, I saved my pennies until I was able to purchase a sun-glass. This, of course, did not reveal very much, but when I afterwards got a small magnifying glass for about a half dollar, I was quite happy with it for many days. It was not, however, until I was old enough to teach school, that I scraped together money enough to purchase a real, compound, achromatic microscope, and you may be sure that my pupils received some lessons that winter not com-

monly taught in country school houses, and, as memory goes back, I can but feel that they were the gainers, as well as myself. A few years ago, a series of articles on astronomy appeared in our county paper, and the writer pointed out to us the planets that could be seen and recognized during the year, with very cheap spy glasses and telescopes. I finally made his acquaintance, and was astonished to find that he was no astronomer at all, but a common farmer who had followed the starry heavens with a very cheap, ordinary spy-glass, until he was comparatively at home and well acquainted among the swinging worlds of the starry deep. Well, in a year or two, I had done almost as much with my simple, cheap microscope, as this friend had with his spy-glass. My little microscope was the same thing that we now sell for \$3.00, and, although the books all said that but little could be done with such an instrument, I managed by dint of hard work, with bright, young eyes, to see, or at least get a glimpse of, almost all the important objects named in the books. Those conversant with such instruments have perhaps learned that a great many things may be seen by close looking, that were at first pronounced absolutely invisible.

Years passed, and I became possessor of a microscope worth \$100.00; but I was then a busy man, and had not the time to get really well acquainted with it, and, to tell the truth, it never gave me half the pleasure or instruction, which the first little instrument I have mentioned gave me. I sold it, and, for years, the hobby of my boyhood was laid aside, and partially forgotten. In due time, the little flaxen-haired "new edition" of A. I. Root, as he grew toward manhood, began to manifest a great curiosity about, and fancy for, his papa's old playthings that were safely stowed away on a high shelf, away up stairs. The electrical machine was pulled down, the dust wiped off, the same old books opened, and even if some of them did get broken and left around, he was never satisfied until he had made each and every one of these things "go," and seen just how they "worked." By and by, he got around to the microscope. If I am correct, I fretted some, remarking it would be something else the next week, and that he would never stick to any one thing. His mother remarked half apologetically, that he wanted to know all about all these things, just as I did once, and, to tell the truth, I had not very much reason to complain for we both remembered well the time when her good father objected to me, because I would never stick to any one thing a week at a time.

Well, to my surprise, the microscope was not dropped. A cousin of his, Mr. Gray's boy, took the fever for microscopes at about the same time, and they were together day and night, lugging their instruments back and forth, scraping the bottom of ponds and puddles for specimens, spilling acid on the tables and carpets, spoiling the grindstones in grinding glasses on which to mount specimens, and leaving traces of their work all about every where, until at least one of their mothers began to fear they were wasting valuable time, in their devotion to their pet sci-

ence. Pretty soon, other boys took it up, and before I knew it rumors of a microscopic club reached my ears. I was finally asked to attend one of them, but of course I was too busy. Finally, one evening, I dropped in by invitation, and was surprised to find a house full of well dressed people, young and old, as eager on examining the dozen instruments, as you might expect to see the *savants* of the age. The party seemed to embrace the most learned and intellectual people of our town, and the wonderful part of all of it was, to find almost the whole of them conversing as familiarly about infusoria, diatoms, polarized light, etc., as if it was the most natural thing to talk about in the world.

The boys have instruments costing from \$20.00 to perhaps \$25.00. As a sort of a joke, I told them I would like a cross section of a bee sting, and an accurate drawing showing how the mechanical parts of it were arranged. Perhaps it were well to remark that young Gray has rather taken the lead in executing the finest and most difficult work. Being one of our compositors, and a nice job printer, he puts up his choice specimens with as neatly printed labels as any of the city opticians, or even those across the water. Well, Ernest, not to be outdone, and knowing how anxious I was to have the bee sting worked out, decided to set apart his week of vacation to the work. Bees were sacrificed to the cause of science without number, and, failing to get one to introduce his sting into a cork, as he had planned, he cut a narrow slit in the cork, introduced the sting, and cemented the slit with Canada balsam. When thoroughly dry, he proceeded with a carefully prepared razor, to slice off sections. His plan succeeded to perfection, and he very soon showed me sections of a bee sting, to my heart's content. To our surprise, we found the material so light, and the hollows so large, it was rather like quills, and sections cut off as thin as he could slice them with the sharpest razor's edge, looked more like little saw-logs standing on end, than the thin sections we tried to make. It is wonderful to see the hollows so plainly visible clear through these little logs, when the whole thing is so small as to be absolutely invisible to the naked eye.

Our engraver has shown you the appearance of the top of one of these logs. The "chopping knife" protuberances on which the lances slide are as plain as the nose upon your face, and the husk, D, and the two lances, A, B, enclose the hollow space, E. C, G, F, are the respective hollows in these quill like instruments. The dotted lines, H, show about the positions of the barbs. Now a query comes in here. One would naturally suppose the poison made its way in the central opening, E; but after collecting a great number of mounted specimens, Ernest has at length found one that, when carefully adjusted to the focus, shows little tubes leading from the hollow in the lance, right out under the root of the barbs. I will show you the rest of it next month.



STILL ANOTHER IMPROVEMENT.

I HAVE made just a little the handiest thing, I think, in the line of smokers. The smoker "you preferred" would often "dump" off the hive on which it was set, and then be out of reach and probably be "spilled" when wanted. I wanted one that would always be at my "fingers' ends," and succeeded not only in this, but also in having it always in "position to fire" at any instant. I have used it in the apiary and want nothing better. The bellows is like your cold blast smoker bellows, except that the blast tube lies flat across one end of the bellows.



FOSTER'S "BAG PIPE" SMOKER.

The smoker is held in position under the right arm by a heavy wire loop passing over the left shoulder, and hooking under the arm. The smoker can be lifted from the hook in an instant, and used in the hand if desired. See sketch. While lifting a frame with both hands, the bees often recognize the fact that the operator is perfectly "unarmed." It is "comforting" on such occasions, to "just show 'em" with a little twitch of the elbow on the "bag pipe," as I call it.

OLIVER FOSTER.

Mt. Vernon, Iowa, Feb. 19, 1880.

GOOD NEWS! Separator tin is down to old prices, and we can ship it now from Philadelphia for \$6.50 per box again. Separators at old prices too, \$1.75 per box.

I WILL pay 90c each for laying daughters of imported mothers, delivered here during this month. If you are new hands at the business, try one first, especially if you send them by mail. I do not like to see boxes of dead queens and bees any better than you do. There have been a good many of them this spring, so far.

THIS month will probably be the time for planting the early-amber sugar-cane with most of you. We are still prepared to furnish the best southern-grown seed at 15c. per pound, but the price is rapidly rising. Our neighbor, Mr. Bennet, planted his first of June, and yet had his seed ripe long before frost. The 75c. book will be a good investment to all who plant an acre. We send a sample of the sugar with every packet of seed or book sent out.

A FEW, a very few, insist that they want the old style of sections with groove for fdn. To such I would say, my friends, you are making an awful mistake. We have made and sold over 200,000 this spring already, and a complaint, since we have got our machinery to working nicely, is an unheard of thing. The sections are so much handsomer, you would hardly use the old ones if they were furnished free; and friend Parker's fdn. fastener will enable any child to put in the starters securely, and at a rate never dreamed of with the old groove.

AN OLD FRIEND'S REPORT ON SEVERAL MATTERS.

CHAFF HIVES.

I COMMENCED the season of 1878 here with nine stocks of bees in common Langstroth hives, intending to make chaff hives and transfer all the stocks into them before the harvest commenced; but sickness in the family, and other misfortunes, prevented so far that I got only two stocks and their two swarms into chaff hives, and got sections on, and that late. However, I sold the honey from these four hives to the amount of \$31.57. I managed to go into winter quarters with 18 stocks, all in chaff hives, and managed to winter them all successfully, which seems a mystery to neighboring bee-keepers who lost all, or nearly all, they had. All efforts to induce them to adopt a new system and take a bee journal are fruitless.

The season of 1879 was almost an entire failure. The season opened splendidly, had early swarms, and all were doing well, and got nicely started in sections, when the dry hot weather in the latter part of June cut off all pasturage completely. I began to have fears in the latter part of summer that my bees would be short of stores for winter, but a fair flow of honey in the fall put them into winter trim. The nights being cool, they could work in sections but *very little*.

QUEEN CELLS FROM NATURAL SWARMING.

I have increased my 18 to 40, mostly natural queens; that is, queens that were hatched from cells that were built by stocks that had swarmed, or were about to swarm. This is a very good way to raise queens, but I can see no difference in the artificial queens I have raised and natural ones. One kind did as well as the other the past season, and always have done so, in my nine years' experience. I have never had any 8, 9, or 10 day queens. My plan of raising queens is to insert an empty comb or frame of foundation into the center of the stock from which I wish to breed. On the third day, take it out and give to a queenless full colony, or very strong nucleus (which for the purpose is the same thing) not less than three or four combs, with abundance of *young hatching bees*. The queens raised on this plan seem to be as large and as perfect and as fine color as any natural queens I ever saw. I have had no queens hatch in less than 13 days after the comb was given to the queenless stock. By the way, if honey is not plenty at the time, fdn. must not be used, but empty comb.

I see that G. M. Doolittle prefers natural queens. I am a great admirer of friend Doolittle, but I think if he had his bees in chaff hives he would not be bothered with so many weak stocks in the spring. I made a chaff hive for a man in the fall of 1878. The lower story was for a frame similar to the Gallup. I transferred an ordinary stock into it, and it was the first to swarm the next season; but, unfortunately for him, they decamped. He ran down the creek after them for about a mile, lost his hat, and lost sight of the swarm. The excitement and disappointment made him really sick for the rest of the day, so that he could not attend to his business. He is foreman of a tannery in a neighboring village. The chaff hives I got of you in 1878 were a poor lot, but I suppose you are improving on your goods, as the 1½ story hive I got of you last season was well made.

CASE FOR 1½ STORY HIVE.

I think the combined shipping-case and honey-crate is a humbug for this reason: In removing full sections and replacing with empty ones, you are liable to kill bees on the supporting bars. It is all very well to say smoke them out of the way; but if one has many bees to attend to, it takes a good deal of time. The broad frames suit me better, as then you take the frame away from the *main cluster*; then all you have to do is to keep the bees off the separators in replacing sections, which is easily done.

FLAT-BOTTOMED FOUNDATION.

I have used some of the thin flat-bottomed fdn. this last season, and it answers equally as well as the Root fdn., as long as there is plenty of honey coming in; but if there is no honey coming in, the bees are apt to gnaw it, which is not the case with thick fdn. We shall see how your new thin fdn. goes this season.

One day last summer I left some sections with Root fdn. in them standing beside a hive. When I came to take them away I noticed that bees were busy at work gnawing at the fdn., and loading up their baskets with the wax. It made jagged-looking pellets. All the bees doing this were Italians — no blacks or hybrids. JOHN H. UMPLEBY.

Derby, N. Y., Feb. 9, 1880.

It is true, friend U., that there is some danger of killing bees with the story and a half case, but if you use smoke and work slowly, you may get along very well with a little practice. This crate is considerably cheaper than broad frames and upper stories, and on this account, it is a great favorite, with certain classes. Lift the case off, and take it away from the hive, and you can then work with about the same facility as with broad frames.

OUR OWN APIARY, HONEY FARM, AND FACTORY.

IMPROVEMENTS IN DIPPING WAX SHEETS.

WE have been much rejoiced within the past few days by a very simple arrangement for melting wax, candied honey, grape sugar, etc., by steam. It is done by simply conducting a half-inch iron pipe into a barrel partly filled with water, where, by letting in steam gradually, by a suitable cock, the water may be made to boil in a very few minutes. To melt wax, just set into the barrel a suitable tin can, fastened so that the water may be all around it. This is for holding the wax, and should be sufficiently large to take cakes of any size. For dipping the sheets, we have a similar arrangement placed a little lower, so that a molasses gate, placed near the bottom of the can in the barrel, will deliver the melted wax into the top of the second can. The dipping-can must have a steam pipe also, to conduct steam into the water that surrounds it. With this arrangement, the dipping can be carried on from morning until night, without any stopping and fussing with the fire. The tank in which the sheets are cooled is filled by a pipe which brings cold water right from the bottom of our artesian well, while another conducts the water away after it has become too warm. By this means, we dispense

entirely with ice, and thus save a heavy bill of expense.

MELTING CANDIED HONEY, MAKING BEE CANDY, ETC.

If you have candied honey in barrels, set in it a tall tin can, containing water; run one of the steam pipes into this, and you can melt the honey without any danger of injuring it. A gate in the side of the barrel will conduct the melted honey out, and strain it into any receptacle you wish. For making candy, or melting maple sugar or anything of the kind, the first arrangement is the nicest thing. With the honey gate, you can run melted sugar into cakes of any size, with great rapidity and no daubing.

SEVEN-TOP TURNIP.

April 17th.—Our first crop of blossoms on the honey farm is beginning to open. It is the seven-top turnip. Our past open winter has been the most severe on the plant of any we have had; and the greater part of my turnips were thrown out by the roots, by the alternate freezing and thawing. Those sowed late, as I advised last fall, are almost all gone. The only really nice plot of them is where we plowed in several loads of stable manure for some raspberry vines. Although we did not sow a turnip, in a few days a most luxuriant, green foliage made its appearance, and, to our astonishment, they proved to be the seven-top, which had only been sowed on other parts of the farm. So, you see, where we tried to prepare the ground, and purchased a high priced fertilizer, we have scarcely a turnip, and where we did not want turnips, we have a patch of them that I shall feel more proud of for a month to come, than perhaps any other spot on the whole honey farm. I gave a dollar for that manure heap, and I wish I knew where I could buy a hundred more like it, for two dollars each.

QUEENS FOUND DEAD IN FRONT OF THE HIVES.

We have had an unusual number of cases of the above, with our imported queens, and several have been reported to us, of imported queens which we have sold. I can scarcely blame our customers for claiming that the queens must have been old ones, yet I hardly see how this can be, even though some of our friends in Italy were not honest, as I suppose them to be; for the losses seem to come from all of the lots we purchased; I am sure they would not all send us old queens. Is it not likely that the long ocean voyage has something to do with their being short lived? I do not think I shall ever want another invoice so late in the fall again. There is hardly a question but that our late troubles with spring dwindling have something to do with queen's dying before they are a year old, and I believe such losses are much more likely to occur in colonies rather weak, than in powerful ones. It is certainly quite desirable that we should have long lived, as well as prolific, queens, and if queens reared under the impulse of natural swarming will insure this, it will be well to have them reared that way; but let us not be in haste to rush to this conclusion prematurely.

VILMORIN'S IMPROVED DANDELION.

21st.—These are now in bloom, and their great size, and bright, dazzling yellow make them one of the prettiest sights on the grounds, especially when covered with Italians, as they are whenever it is warm enough for the bees to fly. I presume they would make excellent greens, but we have too few to try them.

A BLACK QUEEN, WITH YELLOW BEES.

I mentioned last season having a daughter of an imported mother, that was even blacker than the common black queens. She has wintered her colony finely, and now moves about among as fine, yellow bees as any in the apiary, making almost a ludicrous contrast by her jetty blackness. This queen pretty nearly upsets the notion that any one can tell a pure Italian by the color of the queen *herself*. Does it really matter, my friends, what color a queen is, so far as her value for honey is concerned?

MAPLE SUGAR BEE-CANDY.

We have just succeeded nicely, in making the 1 lb. bricks of maple sugar and flour,—four pounds of sugar to one of flour. Stir the flour in the hot sugar when it is just done enough to make hard cakes, and then keep on stirring it, until it becomes white and of a creamy grain. When it is so thick that it will just run down smooth, pour it into little oblong pans, just right to hold a pound. If you are going to sell it, set the pans on the scales, and fill exactly a pound into each. The flour gives it a taste something like very rich cookie dough, and, with the maple sugar flavor, I am inclined to think it will prove as great a favorite with the children, as a new confectionery, as it will with the bees. It will furnish all the bees need to start brood rearing, even during long rainy spells, such as we sometimes have during this month. One of these sugar bricks will start the brood as if by magic. If you lay a sponge filled with water by the side of the brick, the bees will use it up much faster, but I do not know that it gives any especial advantage.

PAULONIA IMPERIALIS.

I WILL take it on myself to send you a description of a very beautiful tree which we know as the Paulonia. When this tree comes up, it very much resembles a mullein stalk. The first year of its growth the leaves come out in pairs on opposite sides of the stem, and are very large. It sheds its leaves in the fall, when nothing remains standing but a straight stem. The second year, limbs grow from the points where the leaves were the first year, and during the third year, it prepares itself for blooming. Commencing in August, it forms a small pod, which lives all through the winter, and blooms in April of the following year. The blooms are very beautiful. They are royal purple in color, and form themselves very close together on the limb, making a beautiful bouquet. This is the greatest honey flower in the world. Each flower contains a drop of honey. I will send you some of the flowers, and also a pod that contains the seed. This tree is a native of Japan, and is a rapid grower. The one of which I speak now is 10 years of age, is 1½ ft. in diameter, and

a beautiful shade tree. The seed ripen in Sept., and are very small, no larger than a tobacco seed. They blossom any where, and come up promiscuously all over the woods. W. T. HEARN.

Montezuma, Tenn., April 11, 1880.

The Paulonia tree grows to a goodly size, some 25 feet or more high, and is quite ornamental as a shade tree. The bees literally swarm on them while in bloom, and they bloom in early spring, before the leaves appear, making them very desirable as a source of honey for brood-rearing, &c. I have no practical knowledge of the "habits" of the tree, and do not know when or how the seed should be sown; but, from observation, I presume they should be sown in the spring, in a rich, moist (not wet) soil, and kept free from weeds. As soon as the plants are a few inches high, thin out to a foot, and transplant to the permanent location when a few feet high. I shall sow some seeds this spring in boxes, as I would tomato seed, and transplant as I would tomato plants. I will report results as soon as there are any (results) to report. In the mean time, should any of your readers know anything about this tree, they will do the rest of us a favor by imparting their knowledge through GLEANINGS.

I will send a packet containing several hundred seeds, post paid, to any address, on receipt of 10c. Goldsboro, N. C., Jan. 13, 1880. T. B. PARKER.

Our readers are aware that we have several times spoken of this tree before. The one in our yard has been there several years, but it has always died down to the ground every spring, until within the past two years. It has branches now, but I have been watching in vain for those wonderful flower buds. The trees were purchased expressly for the honey, but I only saved one out of a half dozen; I believe I paid \$2.00 each for them. The enormous leaves are well worth all the trouble as a curiosity, even if we never get any flowers in our locality. I believe it is rather difficult to get the seeds to grow, but perhaps some of our skillful boys or girls can do it. The young trees can be furnished, I should think, for a low price. The flowers friend H. sends us are large, and very beautiful. I have no doubt, from their structure, that they would furnish an enormous quantity of honey, when the season is favorable, but it may be difficult to get blossoms as far north as we are. I give our friend Parker a free advertisement, because I think it a tree that will be an acquisition as an ornamental plant.

LEAKY COVERS; SOMETHING MORE IN REGARD TO THE MATTER.

TAKE some of your cover lumber, and give it one coat of paint before you put it together; that is, give it the paint on all sides, ends, and in the grooves, and then put it together, and give it one more coat of paint on the inside, and two more on the outside, and I am confident it will not leak. The reason the covers "come and go" is because it is warm on the inside and cold on the outside, and the cover gets damp on the inside, and is bound to come and go; but, if it is well painted, you will find it will stay. I have some covers for a different style of hives from yours, and the covers are 22 in. wide, all of one plank. The first ones which I made all cracked, and I could not think what was the cause;

but one day I "hit the nail on the head," and found what was the matter. I did not have them painted on the under side, and they would curl up on the ends and crack. So I went to work and made some more from lumber 22 in. wide by $\frac{1}{2}$ in. thick, and painted them well on both sides and they are as nice now as the day I made them. I treat my hives in the same way. I have them well painted on the inside, the same as on the outside, and they are as tight as a barrel. Hives and covers both ought to be painted on the inside by all means, to keep the dampness out of the lumber. If you let the dampness get in the lumber it is bound to swell and draw the nails and then the hive or cover will leak.

JNO. F. HEPP.

Boonville, Ind., Jan. 12, 1880.

AN INGENUOUS DEVICE TO HOLD WORK, WHILE NAILING.

DEAR NOVICE:—Enclosed we send you a sketch of our nailing box for frames. Those of our fellow bee-keepers who prefer to use the all wood frame nailed, not dove-tailed, will find our little machine very convenient.

Naples, N. Y., Apr. 2, 1880. GREINER BROTHERS.



Arrangements similar to the above were much in use before the very general plan of having all work, as far as possible, hold itself together while being nailed. Our brood frames, section boxes, and, in fact, nearly all our work is made so that, when driven together, it will almost be strong enough without nails. After nailing, we have much greater strength. The hands, as a general thing, work more rapidly without the use of any machinery to get the parts quickly and accurately in place.

The "Smilery."

THAT subscription money I sent you is all your own. I raised it with the distinct understanding that each subscription should net you \$1.00. Your friends want to help you pay off that debt of yours. I felt mean after clubbing GLEANINGS and Magazine at \$1.50; so I concluded I would raise you a small club and prepay the postage to make amends. I so explained to them when I asked them to subscribe.

I. S. HUGHES.

Mt. Zion, Ill., Feb. 19, 1880.

May God bless you, friend H., not because of your unselfish generosity to myself, but because of that helpful spirit, so diametrically opposite to the natural selfishness of humanity. It is a reproof to me at least, and will help to make me ashamed of myself, when next I am tempted to be small in matters of dollars and cents. It makes me feel that the first words on the cover of our journal are not a blunder and mistake, after all.

The "Growlery."

[This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule we will omit names and addresses, to avoid being too personal.]

ENCLOSED find one dollar for GLEANINGS for the year 1880, with the distinct understanding that the subscription begins with the January number and includes it. If you can't comply with this simple request, please return my one dollar, and I will patronize a bee-journal that has enterprise enough to furnish back numbers. I remember something of the trouble I was put to on this point last year, and hence I desire an understanding at the beginning.

W. O. PIERCE.

Winchester, Randolph Co., Ind., Jan. 12, '80.

Now, friend P., are you not just a little bit rough on us poor editors? How are we to know just how many numbers of a certain issue will be called for, especially where we have to decide the matter several months ahead. A year ago last January, I started the year with 6,000 copies, supposing I had a great plenty for any possible demand. There happened to be a great call for the Jan. No., and, before I knew it, we were out. For Feb., I printed 7,000; these were soon out too, and after that, I printed 8,000 for the whole year. It happened that a good many of our subscribers were for only three months, and, when the season turned out so poorly, a great part of them failed to renew; the demand for sample copies also dropped off, and the consequence was we had a great stack of back Nos., for which we had almost no use. This year the question came up again, how many should we print? To avoid the nuisance of last year, I printed again 8,000 each month. A few days ago, Mr. Gray protested that those old journals were too heavy for the floors. He had constructed the building to bear any reasonable amount of weight, but when it came to tons, it would not hold it. Well, the paper on which those journals are printed, to say nothing of the press work, cost \$270.00 a ton, and the pile is cash out over a thousand dollars. It is true, I could have electrotype plates of every issue, that I might always supply any back No., but a pile of electrotypes would cost more than the pile of journals; it will not pay for a journal having the average issue of a bee journal. It is somewhat of a nuisance to advertise for a No. we happen to run out of, but it is but an insignificant expense, compared with keeping tons of back Nos. on hand. Now, friend P., do you think it is really because we lack enterprise that we don't have every back No. that may be called for? If those who want the whole volumes would subscribe early, do you see what a great expense it would save us? And do you not see, too, why I have offered little presents, to get you to subscribe early? While I think of it, I will furnish any volume of our back Nos., excepting Vol. III, and the first four Nos. of 1879, at one-half the usual price, and pay postage.

DEPOSITORY OF Blasted Hopes,

Or Letters from Those Who Have Made
Bee Culture a Failure.

THE imported queen sent me Nov. 27th, came in about 10 or 12 days, and I got her home Dec. 15th. The queen was all right, but nearly all the bees were dead. I do not think there was more than $\frac{1}{2}$ of a pint. I put them into a larger hive, reduced by a division board, with two of the frames they came on which still contained honey, and one frame of sealed honey, put a burlap double over them, and they flew around merrily for a few days. On Christmas and the day before it was cold enough to form ice $\frac{1}{4}$ of an inch thick, and they died, queen and all. I took the dead queen in my hand and tried to warm her into life, but she was dead, dead, dead. Charges were \$2.25; so my empty, 3 frame, nucleus hive cost \$11.25, making \$18.75 I have expended for imported queens, and have no queen yet. I sent to Dadant one year ago for a four-dollar queen, and she came dead. I advised him of the fact, when he informed me that he did not guarantee safe delivery of those queens! Well, why did he not so state in his circular or advertisement?

I began keeping bees 3 years ago, and now have 70 colonies. For this section, 1879 was an exceedingly poor year. I had no increase, and took but 80 gal. of honey. The first year, I worked only for increase, the second increased from 40 to 65, and sold honey enough to pay cash outlay to date, Jan. 1st, 1879, and made a profit of \$9.00. Last year ate up the profits of the year before, and more too, leaving me nothing for time and labor.

Heretofore I have worked only for honey; this year I want to sell bees and queens in addition. With my limited experience, I cannot speak very definitely about bee-keeping in the South; so far as my experience goes it is *not* a "Bonanza," and, at present, I am inclined to think the profits will not be so great as in the North. Our honey is not so smooth, a little more acid, and has a greater tendency to make one cough than northern honey, is darker generally, and, when extracted, is sent to city markets, and sold for manufacturing purposes, and has to compete with molasses. In 1879, mine netted but 45c per gal., not quite 4c per pound. Again, the honey flow is more continuous, but not so great at any one time, so that brood rearing goes on briskly and very little surplus is stored. In working for extracted honey, I am troubled by the queens going into the upper story. It is annoying to find it filled with drones, and not a frame fit to extract in the whole hive. Shading and ventilation present different phases here, and one cannot work all day bending over hives with a June sun beating down upon his back, as you can in the North.

Grand Lake, Ark., Jan. 20, '80. H. A. HARRIMAN.

Now, friend H., if you will excuse me, I would suggest that you did a most reckless thing, when you allowed that queen to incur any such risk; and one can scarcely avoid the inference that your poor success all along through may have been caused mainly, by—by—well, carelessness, and want of that shrewd and dogged determination, that is needed to make it sure that queens shall not

die, when you once get them into your hands. We have those among our readers, who scarcely ever fail in what they undertake because they *won't* let a failure occur. Doolittle and Hayhurst are men of that stamp; your humble servant is sometimes, when he gets waked up, but I am sorry to say a great many times, he lets things "slide," or rather takes the risk, as you did when you left your queen without reinforcing her nucleus strongly with frames of hatching brood from your other hives. I do not want to see anybody brag, but I do like to see a man who can winter every colony in a hundred, or who is not afraid to take a valuable queen, and say, "Yes sir, I can introduce her for you, without any chance of a failure," and then to see him set right about it and do it, and have his actions prove his words, *every time*. Boys you *can* make yourselves masters of these things, and when the world finds you don't make mistakes, you will be wanted every where. Come now, brighten up, roll up your sleeves, and show us what you can do. Do not try to grasp too much at first; take a little, be faithful in a few things, make your one colony just "climb," and then be sure you make all the rest, when they come, do just the same. I declare I had almost forgotten we were in Blasted Hopes.

I have had bees two years, but never got a pound of honey. Not very encouraging; is it? But I will succeed this time, or try mighty hard.

D. B. DAVENPORT.

Atchison, Atchison Co., Kan., Mar. 14, 1880.

I have tried to keep bees for 2 years, and spent over \$100.00, and not a cent have I received, and but little honey to eat. So you see I have been in Blasted Hopes all the time. My wife says I am like the man that made his living by farming, and always bought his bread and seed. Well, if you do count me in Blasted Hopes, I am not discouraged.

JOSEPH VANBUSKIRK.

Clyde, Ohio, April 8, 1880.

BEE DYSENTERY.

A LITTLE BIT OF A CRITICISM ON FRIEND DOOLITTLE.

I SEE this subject discussed in different papers and bee journals, and have noticed one piece in particular, from Bro. Doolittle, of Borodino, N. Y. Now I consider Mr. Doolittle head and shoulders above all other apiarists; indeed, so much do I think of his common sense and straight forward practical talk, that I have gathered up all the writings of his I could get, and placed them in a book, which I call my "Doolittle book." But I saw a piece in the *American Bee Journal* of December, 1879, from his pen, from which I must dissent, as it is contrary to all my experience.

On p. 541, of the bee-journal, he says: "Is there such a disease among bees as dysentery? I answer, No. Do we see bees soiling their hives and combs at any other time, except after a long continued confinement? If we had July weather steadily for one year, would the bees die of the so called dysentery, as they did last winter and spring? Of course not," etc., etc. Now, friend Doolittle, in regard to this as a bee disease, you are correct; you and I agree exactly. But listen: In 1865, I had 3 good

swarms in the King hive, which were just alike as far as I could see. About the 20th of Nov., I fixed them up for winter. I took out the honey boxes and put two layers of burlap over the frames above the bees. I filled the space above of the first with corn cobs; of the second with chaff; for the third, I cut up a square piece of sod right under my feet, and put right on the burlap over the bees, and filled up with earth. What ignorant mortals we are! There was a one inch auger-hole in front of each for ventilation.

Well, about New Year's, on a pleasant day, the bees were flying nicely. I walked along in front of them, and saw a few sickly looking bees crawling in front of the hive where I had put the sod. They were all daubed with their excrement. "Hallo! something wrong here," I said, and opened the hive immediately. Such a case of dysentery may it never be my lot to look upon again. The combs and bees were literally covered with their excrement. I took them out and put them in another hive, but it was too late; they all died with dysentery, brought on by my *stupidity*. Well, the other two came through in splendid condition, and gave me two swarms each the next summer. Dysentery is brought on more by the condition of the hive than by long confinement. In the fall of 1870, on the 15th of Nov., I put 3 swarms in the cellar. I gave them plenty of ventilation, kept them in until the 10th of April, without giving them a fly, and they came out tip-top, never having soiled their combs in the least. Now, if Bro. Doolittle is correct, will friends Burch, Heddon, Clute, Shane, and some more of the bee deacons arise and explain.

J. ELLIOTT.

Easton, Wayne Co., O., Mar. 8, 1880.

Very likely the sod killed your bees, friend E., but how do you know but that somebody else might try the "sod plan," and have them come out finely? I, too, in reading friend D.'s article, noticed the point you have taken up, and it looked very much as if he meant to say that bees died of confinement, very much as human beings would, were they similarly confined; but still, I do not think he meant to have it so understood, but rather this: if the weather were so warm that the bees could fly freely every day, we should have no dysentery; therefore it must be the effect of confinement to their hives *by cold weather*. At the same time, confinement to their hives by cold weather does not necessarily always produce dysentery.

Ladies' Department.

HOW THEY USE HONEY IN LOUISIANA.

WE use a great deal of honey in cooking. For all molasses is so cheap with us, honey is cheaper. It stews pumpkin deliciously; preserves peaches, apples, oranges, quinces, figs, both Lisbon and Japan, and makes the most delicious "butter scotch," as we school girls of Cincinnati used to call it. The extracted honey is praised by every one who sees it, above the old-fashioned strained honey. I have you to thank for my ever doing anything with bees out of the old routine.

HOW TO EXTEMPORIZE A "HAND RIPPER."

I have not told you that the saws you sent are run by an old straw cutter that was idle, and does splen-

didly. R. J. Willson will send for a saw the same as mine, he is so pleased with it.

You can form no idea of how out-of-the-way this country is for little home improvements. Anything that is grand or big, like a steam cotton gin or cotton press is all right, but very few raise their own corn here, or their meat, and have few of the little improvements that make a convenient and pleasant northern home. Our plantation makes 500 bales of cotton, and I may say we live from hand to mouth; but I have Boston blood in me, and I mean to do something in the line on which I have commenced.

ST. I. T. MOORE.

Monroe, Ouachita Parish, La., Dec. 11, 1880.

Humbugs & Swindles, Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

WE have been troubled very much with patent bee hive men. A party from Tenn. sold us the "Golden Bee-hive," and taught us how to get our honey at 2c. per lb.; but it failed and caused many to say that bees are a humbug. Another party came last fall, and said they had broken Langstroth up, for infringing on their right. All the harm they did was to take an old man off with them, promising him \$75.00 per month, and left him to make his way back the best he could without pay. He ought to take GLEANINGS. MIKE WININGER.

Glasgow, Ky., April 6, 1880.

We have had a good many letters of complaint from the "Golden bee-hive" of late, and also from the "Gould's Common-Sense hive," which, it seems, has cropped out again, especially in the South. Give them all a wide berth, my friends, and you will save your money.

I send one new subscriber. I think when he has read GLEANINGS six months he will want it the remainder of the year, notwithstanding he paid N. C. Mitchell \$5.00 for the right to make his hive and a promise to send him his own "published work" containing full instructions how to handle and make money from bees,—which "Uncle Sam" fails to bring. N. CASE.

Orangeville, O., Jan. 20, 1880.

MITCHELLISM.

Dear Sir:—Two years ago, my friend Cornell and I decided to Italianize our bees; and, as Mitchellism was then all the go here, we concluded to send to him for a queen. Accordingly, \$5.00 was sent for a queen and honey knife. Pretty soon after, my friend received a receipt for the money, and also word that the queen would be on the way in proper time. At two or three different times, he sent word that the queen would soon be on the way. After two years, we have concluded that she is a slow traveler, or that Mitchell is not yet through testing her, or that he wants her to swell the ranks of that army of queens 10,000 strong, or, maybe, to give some one a good chance to brand him as a swindler.

Lowder, Ill., April 10, 1880.

F. W. HULME.

MITCHELL.

I am glad to see you take such active measures in regard to Mitchell. Until I saw the April number of GLEANINGS, I did not understand the meaning of a good many letters I have received of late. I had no idea that he had the assurance to claim, in a printed circular, a patent covering every feature of a division board. He has left Indianapolis and gone west, to "grow up with the country." G. P. McDOUGALL.

Indianapolis, Ind., April 5, 1880.

MRS. COTTON.

A. I. Root: I take the *Christian Leader*, a paper published in Boston, in which I saw Lizzie E. Cotton's honey-bee advertisement. I cut it out, put it on a postal card, stating that it was a humbug, and giving as reference yourself and A. J. King & Co. A short time ago the same advertisement came in the *Tribune and Farmer*, published in Philadelphia, and I did the same with that. The advertisement is the same as you published in GLEANINGS of Nov. 1st, 1879. Yesterday I got a letter from her which reads as follows:

T. B. Wait:—I am advised of your slandering me through the mails. I shall immediately take measures to bring you to justice.

MRS. LIZZIE E. COTTON.

West Gorham, Me., Apr. 8, 1880.

I don't know but I have got myself into trouble; if I have, I did not do it intentionally. I notified the publishers for the benefit of the public and bee-keepers particularly, and I did not like to see a humbug advertisement in a religious paper. I don't think she will ever trouble me, but, if she does, I shall have to look to you for the proof of what I said; viz., that her advertisement is a humbug, for it was by reading your GLEANINGS that I was led to do so. Please let me know soon what you think of the matter. T. B. WAIT.

Mills' Mills, N. Y., April 13, 1880.

Never fear the threat of evil doers, friend W.; you have done your duty well and faithfully, and I will stand between you and harm, should any come. I am rejoiced to know that so many are waking up to the importance of letting our religious papers know that they are expected to discriminate between the true and the false advertisements. Mrs. Cotton's advertisement alone, coming from any source, should condemn it, and I do not see how the editor of a religious paper, or any other who has the good of his readers at heart, could allow such a statement in its columns. Mrs. Cotton's threats are about on a level with those from Mitchell, given last month.

Boys' Department.

I AM a reader of GLEANINGS and an A B C scholar of 17. Quite young for a bee-keeper, am I not? My brother has the A B C, and takes GLEANINGS, and I take the *American Bee Journal*. So I get to read every number of GLEANINGS, and he reads the A. B. J. Probably, you may not care about hearing from me, as I am not one of your subscribers; but I assure you I would be, if I were not at liberty to read GLEANINGS whenever I desire. This is my second year of bee-keeping. I commenced last season with one colony of blacks. The season was so poor that I only increased it to two, and did not get any surplus. I was at that time

very green in bee culture; therefore I got a bee-keeper to divide them for me, as they would not swarm. I also bought of him a tested Italian queen, which he introduced the day he divided them, which was July 3d,—pretty late in the season; but they made enough for winter stores, and have wintered so far. The Italian queen is an exceedingly prolific one, keeping the hive always "chock full" of bees, and brood in all stages, during the honey season. They are the gentlest bees I ever saw, and plainly show the three yellow bands as described in the A B C. I worked with them without a bee veil all last season, and did not receive a sting. Of course, I began to think that I was an expert bee-keeper; but one day, when my brother was putting a colony of hybrids into a chaff hive, I boldly stepped up to take part in the proceedings. I removed one frame all right; but when I reached down for another, one of said colony thought he would salute me. So "zip," he took me right on my eyelid, and you just ought to have seen me "heel it." My eye swelled so that I could hardly see out of it for 2 or 3 days; so I have got enough of them.

I expect to Italianize all of my mother's bees (she has 6 colonies, 3 blacks and 3 hybrids) and my own from the Italian queen described above. Do you think she is a good one to breed from? When I commence Italianizing, the black and hybrid queens will be of no use to me, and if you want them to fill orders with, I will send them to you with the greatest of pleasure, provided you will furnish cages and pay postage. One of the hybrid queens produces the best honey gatherers I ever saw, and is remarkably prolific, always keeping her colony the strongest in the apiary; but they are like a nest of yellow jackets to work with. If you want any of the above queens, I will notify you when I get ready to ship.

M. B. MOORE.

Morgan Station, Ky., March 23, 1880.

Many thanks, my young friend, for your very kind offer, but I think it will be better for you to ship the queens directly to those who may happen to want them; and I wish to say, my friend Moore, aside from bee-culture, that your letter is perhaps as fine a specimen of penmanship, as ever came to the office of GLEANINGS. I wonder if you have not been reading and profiting by my remarks in January number. I wish our boys—aye, and older ones too—would write to you for some copies, and then set earnestly to work and do likewise. I am very glad indeed that you have the *American Bee Journal*, and it does me good to hear of neighbors borrowing and lending their journals in the way you mention; it looks like helping one another.

GALLUP.

SOME OF HIS IDEAS IN REGARD TO QUEEN REARING AND IMPROVING BEES GENERALLY.

I HAVE just received a circular from J. Oatman & Sons, of Dundee, Kane Co., Ill., which calls my attention to a fact in bee culture that is not generally appreciated. He says "Hard work, and close attention to the valuable traits developed by special stocks and lines of blood in our yards for the past few years, have now placed us in possession of

a line of Italians," &c. He further says, "We are forced from long and careful experiments to give preference to the leather colored bees, finding them more worthy in every particular of further development." Now this corresponds so exactly with my experience and with the experience of the late Adam Grim, that I thought it well enough to give my experience in the matter. It is a well known fact to every bee-keeper that he will have some stocks in the apiary that are far superior, in every particular, to all others. Now, by careful selection, and breeding only from selected stocks, for a series of years, every stock in the apiary can be brought up to a high standard of excellence. Mr. Grim said that he wanted bees for profit, and not for fancy, and I want the same. I have invariably found the dark leather colored Italians preferable to the extra light colored. I know that many breeders have bred for color simply, because there was a demand for handsomely colored bees without regard to other qualities. While in Iowa, I bred for five years in succession exclusively from queens that came up to my standard, and the result was a race of bees that was far above the ordinary standard for profit, and profit is what we are after. In examining our bees the past week, we found one stock whose queen had filled 12 combs completely, and two more partially (standard L. combs) with brood. Now I would much prefer 15 stocks of the above class to 50 ordinary or common stocks, as they are found through the country to-day, and I would actually get more profit from the 15 than from the 50. You will probably say that this is one of Gallup's yarns; but try the experiment for yourselves. It certainly pays to improve the breed of bees, and that they can be improved, and wonderfully improved, is a positive fact.

I sent an order to the editor of GLEANINGS, the first of this month, for two imported queens without giving any directions as to color, and he sent one dark, leather colored queen, and one light colored one. Now, for my own use, I prefer the dark one before the light one every time. Suppose they are not quite so gentle in their disposition at all seasons of the year (and I am perfectly willing to allow that they are not) it is the working qualities that I am after. I have no objections, not in the least, to dollar queens, providing they are properly bred, and bred from extra good stock. Raising them for one dollar each does not make them worthless, by any means. We would be just as apt to get good queens for one dollar as for five dollars, providing they were raised from good stock, and by a careful and reliable apiarian. Queen cells should always be raised in good, strong stocks, with an abundance of nursing bees, and they should be gathering natural food abundantly, or be fed freely at the time. After they are sealed, they can be transferred to smaller stocks or nuclei to be hatched and be fertilized. Save all the queen cells that are raised in excellent stocks at swarming time, for they are about as near right as they can be made. Why not improve bees as well as our domestic animals? I do not get the imported queens expecting to get anything superior to those raised in this country, but for the sake of introducing a new strain of blood or a cross in the stock; for bees should never be bred in and in for a series of years, expecting to keep up the standard of excellence. They will run out the same as our hens and turkeys.

E. GALLUP.

Santa Paula, Cal., March 30, 1880.

HONEY DEW.

THE REAL, VERITABLE, GENUINE ARTICLE, "CAUGHT IN THE ACT" OF FALLING FROM THE CLOUDS.

A GOOD deal has been written on the origin of honey dews, and I wish to make a statement of what I have seen. When I was a young man, my father owned a farm in Lorain Co., Ohio, on the Vermillion River, 2 miles from Vermillion Harbor. We were clearing and making fence on the river flats. The honey dew had covered the leaves of the bushes and weeds, and the dry leaves and sticks on the ground so that they stuck fast to my bare feet. I licked it from the leaves, and it was very sweet. One afternoon, I saw the air full of small shining particles, resembling a shower of rain falling gently to the ground. My father said it was the honey dew coming down. There was no wind or clouds. The sun had fallen behind the wash bank nearly 100 feet high. While standing in the shade, we could see the shower of illuminated drops like rain. I have seen something like it by throwing water in the air when the sun shines. I think they were visible over 150 feet from the ground. This shower continued till the sun went down behind the trees. The drops were exceedingly small; not as large as they were in the blossoms of the spider plant, but I am sure the bees could have licked up the spilt honey all the day long from the ground. What do you think of this? J. B. GRAVES.

Richmond, Mich., Jan. 16, 1883.

The above should have followed the article on page 218, but it was overlooked. From the facts furnished, it would seem that there is considerable more to be learned about this strange phenomenon than we are perhaps aware of. It has been suggested that these showers are due to the presence of swarms of insects in the air above, beyond the ken of human sight, and that after playing in the rays of the setting sun awhile, they go back to feed on the foliage of plants and trees, preparatory to producing another such shower on the succeeding day, and so on. Who can undertake to say positively that such is or is not the case?

STILL MORE ABOUT HONEY DEW.

In the summer of '78, honey dew was so plentiful with us (this was in Douglas and Franklin Cos., Kansas), that the bees filled up their hives almost tight, so to speak, in July. Hives were so well filled that brood rearing was almost cut off, and, although bees had done well all the fore part of the season and put out an abundance of swarms, nearly all stocks were weak in the fall, but had plenty of honey.

This dew appeared in the greatest abundance on the leaves of the black or shellbark hickory. Considerable of it was found on what most people there call jack oak; some on sumac, and but little on Papaw, there being no beech or hard maple. My opinion is, that this saccharine substance exudes from bursting buds, and the young, tender shoots of some kinds of timber. I do not think it is an exudation of the leaf exclusively, for the following reasons: If the weather is windy or cloudy, this dew does not appear. It is always found on leaves of a smooth or glossy surface, and not on velvety leaves unless they are in close proximity to those on which it appears most copiously. It is never found on the under side of a leaf, or on leaves that are sheltered. If there is no common dew, there is no honey dew. If the

growth of timber has been very thrifty, and the weather is very clear day and night, and common dews very heavy, the yield of honey dew will be very copious. I have given my reasons in a very positive way, simply because it is the shortest way. My observations have given me the above conclusions, yet I may be mistaken.

THIS HONEY DEW FOR WINTER STORES.

I put 41 stands of bees into winter quarters, in a warm, dry cellar. None of them with more than an ordinary number of bees, but most of them well stored with this honey-dew honey. I took them all from the cellar alive, and only one had dysentery, and that had been troubled by a rat. Most of the people through the country let their bees stand out, without any protection, and nearly one-half of them froze to death, and most of those that lived through had dysentery in the spring. S. A. SHUCK.

Bryant, Ill., Dec. 22, '79.

SMARTWEED AND OTHER HONEY PLANTS OF NEBRASKA.

YOU and all other writers on honey plants seem to be mistaken in the kind of smartweed from which honey is gathered. In this section of country, bees never work on blackheart or on the small variety of smartweed. There appear to be three intermediate varieties that produce honey, and one that does not. These are the plants from which the greatest yield of honey is procured during the month of August. The honey is nearly as light colored as basswood honey, and without nauseating qualities. When candied, the grain is very fine. Last year we had several thousand pounds of it, but, this year, like all other honey plants, they failed to furnish any surplus. From basswood in June, and smartweed and buckwheat in August and the first 8 or 10 days of September, we obtain all our surplus honey. A little honey is sometimes gathered in the fore part of June from red clover, and about the tenth of the month early sumac blossoms, but neither furnishes surplus. From the 15th to 18th basswood blossoms, and some years furnishes a large yield; in other seasons none. In July a late variety of sumac blooms, and a little honey is gathered. The Simpson-weed blossoms in this month and continues to bloom until the latter part of August, but never furnishes honey in sufficient quantities to make any perceptible difference in the yield. When the smartweed blooms, about the 8th or 10th of August, a change comes over the spirit of the apiarist's dreams. The swarming season opens, and honey is gathered at the rate of 4 or 5 lbs. a day in good swarms, up to the 8th or 10th of September, when the season closes. We have soft maple, red bud, white willow, and hazel, from which pollen is gathered in March, and the various kinds of fruit trees in spring. In June, we have the oak, dogwood, red clover, early sumac, and red willow; in July, late sumac, Simpson weed, the Rocky Mountain beeplant, and the various kinds of milkweed; also the various kinds of sun flower, wild and tame, on which bees never work. Many of these continue to bloom through August. In the fall we have aster and golden rod, and yet we have never known any or all of these to secrete honey in sufficient quantity to make it worth while to extract. White clover has not been introduced into the country in sufficient quantity to be mentioned. If I could procure some of the American variety, I should like to test its honey producing qualities here. So far I have not been able to get the right kind. We ought to be able to reduce this business to system, and to be able to tell just when to expect a flow of honey.

Rulo, Neb., Dec. 12, 1879.

JEROME WILTSE.

For (Gleanings in Bee Culture.

ACROSS THE GREAT SALT BROOK.

NO 1.

FRANK BENTON'S TRIP TO THE ISLE OF CYPRUS.

WITH thoughts turned to the far East, a little party of three went on board the staunch steamship Italy, to sail on the 21st of January for London, intending to proceed thence across the continent of Europe and up the Mediterranean Sea to the Isle of Cyprus, of which nearly every bee-keeper in America has been reading of late. The terrors of the deep were to be faced, and thousands of weary miles to be traversed, in order to obtain the little insects which, found only on the island mentioned above, have received the name Cyprian Bees. It was friend King, of the *Bee-Keeper's Magazine*, who shook us by the hand after having entertained us very pleasantly at his house the night before, and who wished us a pleasant and prosperous journey. Day after day our good ship plunged forward against the surging Atlantic billows, and, at last, through the fog and storms, brought us, on the 5th of February, to that wonderful city, London, the world's capital.

It was gratifying to observe that the tribute which the stern old sea-god, Neptune, had exacted from friend D. A. Jones, of Beeton, Canada, had left him none the less hearty looking, and none the less jolly; and when he shook the hand of Mr. Alfred Neighbor, of the firm of Geo. Neighbor & Sons, it was easy to see that he was as thoroughly a "bee-ist" as ever, and, quite like his companion, "Bent-on" seeing and learning all that our good brothers in Europe could present in the bee line.

In the bee-emporium of Mr. Neighbor, we found all the appliances of a well regulated apiary, and among his stock of hives, extractors, etc., articles adapted to almost any style of bee-keeping may be found. Mr. Neighbor's Cottage bee-hive, in the hands of the peasant bee-keepers, will produce much better results than could be obtained by the old-fashioned straw hive. It is constructed of closely twisted straw wound spirally upward, and has an opening in the top, over which a case of sections or honey-boxes may be placed to secure comb honey. The whole is surmounted by a well painted, wooden or metal cap, which serves to shed the water as well as keep off the direct rays of the sun. Bees in these hives would certainly winter well, especially in the mild climate of England. The Collateral hive is a form of the movable-comb hive, which Mr. Neighbor designs to be used as a side-storing hive, whenever so desired, frames containing sections being hung just outside the division-boards which inclose the brood-nest. This hive is also well adapted to wintering in the open air—the plan very generally pursued in England—as the combs and division-boards are so arranged as to enable the bee-keeper to place the former parallel to the entrance, and pack with chaff on all sides. In the way of extractors, we could not but feel that some of the more modern American styles would give greater satisfaction; indeed that has been the observation wherever we have been. Mr. Neighbor's intelligent talk about bees, and his lively interest in our undertaking served as a very agreeable change from the monotony and confinement of life on shipboard.

Of course, we could not think of leaving London

without first making a visit to Fairlawn, the home and bee-establishment of that worthy British bee-keeper, Mr. C. N. Abbott, the editor and publisher of the *British Bee Journal*. So one morning we found ourselves seated in one of the cars of the underground railway company, and, after a few minutes' whirl through the dark tubes leading under the great city, we were landed at the desired railway station, in the northwest part of the city. Then a pleasant ride of about ten miles brought us to Tout-hall, London, and shortly after we received from Mr. Abbott himself, who had been previously notified of our coming, a very hearty welcome. The hours in his apiary, shop, sanctum, and at the dinner-table, flew past only too quickly. It is very easy to discern that friend Abbott is a thorough-going bee-keeper, and we found much of interest at his place. His 130 colonies of bees are most of them in movable-comb hives, the frames being about the same size as the frame proposed in GLEANINGS some years ago as a standard frame. Mr. Abbott's efforts are largely turned toward the fitting out of full colonies of bees in such movable-comb hives as can easily be handled by the farmer bee-keepers; and, in this manner, as well as through the columns of his excellent journal, *The British Bee Journal*, he is doing much to raise the standard of bee-culture in Great Britain.

It is gratifying to see the interest manifested by our British brethren in regard to new races of bees. They are discussing the qualities of these races and, now, some of them are to have Cyprian bees which we bring with us. Friend Abbott has promised personal assistance in flying and, if necessary, repacking our queens when they arrive in England, so they will stand the long voyage over the ocean.

Time will not permit additional remarks at present, any more than the mere statement that we have visited a large number of the prominent apiarists on the continent, Gravenhorst, Cori, Count Kolowrat, Gatter, Schroeder, and others, and every one is thoroughly convinced of the great superiority of the Cyprians over all other races, especially in the matter of wintering and honey-gathering, and, when pure in blood, they are no crosser than Italians, while many claim they are more gentle.

Trieste, Austria, Feb. 27, '80. FRANK BENTON.

Many thanks, friend B. As I was much interested in the following note, which accompanied the article above, I suppose our readers will be also, and so I take the liberty to give them all we know of you. Please give all those friends a hearty hand-shake for us, and tell them we often remember the brothers away across the seas.

Friend Root:—Since landing in London, we have been on the go most of the time, so that it has been quite impossible to write much. At the last moment, I have dashed off a few pages.

We sail for Alexandria, Egypt, at noon to-day, on the *Urano*, of the Austrian Lloyd St. Company's line.

Mr. Jones sends kind regards. Accept same for all from me.—F. B.

It sounds almost like a dream to hear you speak of "Alexandria, Egypt." Don't you have to "pinch yourself" sometimes, to see if it is really you or not? May God bless and watch over you and brother Jones, and all the kind bee friends you meet in your travels.

The foregoing should, properly, have gone in the April No., but as it did not, we shall have two letters in this No., for we suppose our friends are all anxious to know of the Cyprians in their native home, as soon as possible.

EASTWARD HO!—CYPRUS—ITS BEE-CULTURE.
NO. 2.

One bright, beautiful day in February, the Austrian Lloyd steamship *Urano* cast loose from her moorings in the city of Trieste, and bore out into the charming bay which forms an excellent harbor for many ships. The deep blue water, the glittering, white-stone houses of the city mingled with the green foliage of its numerous gardens, with a background of hills whose sides were studded with gleaming white villas, while still farther off were rugged, quite mountain-like elevations forming an irregular horizon, all combined to produce a scene that could not but charm the eye of the beholder. Even the two bee-keepers who stood on the quarter-deck of the fast-receding steamer were delighted.

Down the Adriatic the good ship sped. Corfu was the first halting place; then on she went over the heaving waters of the Mediterranean. The Isles of Greece, so famous in history and song, were passed, and slumbering Greece herself left behind us. At last, a long line of sand seemed to rise from the sea; then numerous turret-like structures were seen—the sandy shores of Africa and the minarets of Alexandria's mosques were before us. Great palm trees, lemon and orange trees, laden with delicious looking fruit, figs and bananas, all betokened a tropical clime. The strange life which was soon exhibited to our eyes indicated the same thing. Turks, Arabs, Abyssinians, and Europeans of all nationalities were strangely grouped, the natives exhibiting, in their peculiar dress, an odd mixture of bright colors, turbans, and *fezes*.

From Alexandria, another steamer brought us to Cyprus. Here a similar scene presented itself, only there were fewer Europeans, more were dressed like Greeks, and Greek was the prevailing language; while the buildings were far less pretentious and the vegetation less luxuriant, though numerous palms, orange and lemon trees, and acres of cacti were to be seen.

As soon as we had established our headquarters at the only suitable, public stopping-place in Larnaca, we turned our backs upon all these new and odd scenes, and, mule-back, sought the rural districts,—not the sylvan shades, for not a sign of a forest was to be seen. We traveled for miles northeastward from Larnaca, through a region having only here and there cultivated fields, and these apparently but poorly remunerative. Sometimes the road led over bare rocks for some distance. There was scarcely any hint at water, and in summer everything must be dry. There was comparatively little herbage, though a very small shrub, something like a sage bush, seemed to be struggling from among the rocks. Perhaps it may furnish honey, but in the main one would judge that if there were any bees in this region there would surely be a struggle for existence, which would result in "the survival of the fittest," and thus the perpetuation of a strong race. After nearly three hours' ride, we came to a range of limestone hills, or low mountains, beyond which we found the Messarea, or central plain, extending northward to the lofty mountain range which runs parallel with, and close to, the northern coast of the

island. The Messarea extends from the sea on the southeast to the sea on the northwest, and contains many villages and several cities, as well as the ruins of many famous, ancient cities. Its soil is very generally good, but water is lacking, the only supply being from a few wells and springs many of which are dry in summer. If good wells were sunk, and supplied with windmills, and tree-planting should be resorted to, a few years would suffice to change much of this area into fertile, cultivated fields, instead of letting it remain in the shape of open commons where flocks of sheep and herds of goats glean but a scanty pasturage.

At a village on this plain, we saw the first bees. They were in earthen cylinders about eighteen or twenty inches long, and eight or nine in diameter. These cylinders were placed in heaps as we pile up tiles, and the ends, front and rear, closed with clay, or with earthenware disks which were plastered in with clay, a small hole being left at the lower part of the front disk, to serve as an entrance. In some instances, the hives were made of unbaked clay, chopped straw having been incorporated with the clay. The honey is obtained once or twice during the season, by removing the rear disk and cutting out one-third to one-half of the comb. Oftentimes the bees gather little after this operation, and die for want of honey before the return of the working season. We traveled some days among the peasants, and succeeded in making several bargains for bees, so that we now have seventy-five colonies to start with, and hope to get some more, and be ready to supply queens in large numbers. I will not detail here the cost or difficulties in the way of securing and raising bees on the Island of Cyprus, but will leave these items for a future communication, merely remarking here that both far exceeded our calculations regarding them.

In a later article, I will describe these bees, as they seem to me. I will mention here, however, the fact that they are *very uniform* in every way, and considering that no heed whatever is given by those who have bees,—the Greek and Turkish peasants—to their breeding, we are safe in concluding that the race is a fixed one, and will continue to propagate itself.

FRANK BENTON.

Larnaca, Island of Cyprus, Asia, Mar. 16, 1880.

QUARTER BLOOD QUEENS, QUEENS
THAT FLY AWAY, QUEENS
THAT LOOK LIKE THEIR
SISTERS, ETC.

I WOULD like to give you a little experience I had with a couple of queens last season. I introduced into a half-blood swarm a queen from a nucleus, which I knew to be a quarter-blood. As there was no drone comb in the hive, I did not anticipate any trouble in that line. Some time in Sept., while superseding old and unprolific queens with young Italians, I came to the above swarm, and thought to dispose of the quarter-blood queen; but, what was my surprise on making a "post mortal" examination to find that the old, dark queen had been superseded by a very handsome, yellow one. Sept. 25th, there was not a black bee in the swarm; and, on account of the superior markings of the queen and bees, this swarm was selected to be taken to the county fair, and it took a premium.

The other case was where a queen flew away the second time. Of course, I'm not positive it was the

same queen, but it looks probable, to say the least. Sept. 4th, I caged a queen which was very yellow in swarm 71. She was taken from nucleus H. I let the queen out the 5th, and every thing seemed all right; but, the 6th, she could not be found. I gave the swarm young larvae, and they raised queens; but, on going back to H, I found the queen all right. On the 12th, I caged her in 33, and let her out the 13th. A little while afterward I went to see how she was getting along. When I discovered her she was going up to the top of the frame as lively as you please, but she did not stop there; before I could set the frame down, she flew away. This time she did not return to nucleus H. On the same day (the 13th), I opened a swarm which stood some 20 ft. in front of 33. This swarm had rather a dark queen with her wing cut. Now my supposition is that, while the bees were excited on account of my disturbing them, the yellow queen (which flew from 33) entered this swarm, and the old queen was destroyed. In just a week, I went to the same swarm again, and was surprised to find queen cells nearly ready to seal over. On looking a little further, I found a bright yellow, laying queen, which turned out to be a pure queen; also her brood in nucleus H was pure. This fly-away queen behaves herself very nicely at present writing, and is mother of as nice a swarm as there is in the yard. So I conclude that not all the queens which fly away when being introduced are lost. We had several other cases; but I must not take up too much of your valuable time. It was the worst time for introducing queens last fall, that I ever saw. Bees gathered very little honey here, although there were acres of buckwheat in bloom near by. I usually introduce the new queen when I take away the old one, by stopping up the mouth of the queen cage with soft comb; the bees will gnaw it away, and in a few hours the new queen will be at work. But this would not do last fall, some of the swarms would ball a queen a half dozen times before they would accept her, so we had to resort to the Quinby method, and keep them queenless a few days. I lost several nice queens before I realized that a little more care was necessary.

Are not sister queens marked alike? In several cases, I could tell queens from a particular mother, as soon as I saw them. I did not think about it at first but mean to take particular notice this season; for instance, the queens from one mother were all very long, slim, and yellow; from another, they were a little darker and very large; from still another they were medium sized and quite dark.

Putnam, Ct., March 24, 1880.

THOMAS R.

I am glad you have brought out this point in regard to purity of blood, friend R., for I have often thought if we were purposely to raise some queens that we knew were three-fourths Italian, we should find many of them producing bees whose markings would indicate them full blood. In attempting to raise queens from them, however, the impure blood will quickly show. I too have seen queens so disposed to take wing, that they would start off almost every time the hive was opened; do such queens ever start out when the hive is not opened? If they do, it might explain many hitherto unexplained things about bees changing from black to Italian, and the reverse. It is quite certain, that a queen often goes into a strange hive, and supersedes the proper inmate.

BEES AND GRAPES.

I RAISE fruit and keep bees, but have never had Concord or Delaware grapes burst on the vines by wet weather, or had them punctured by bees. That bees ever do puncture fruit, I deny. I have been considerably annoyed by birds snipping my fruit, and, when the skin of sweet fruit is once broken in any manner, the bees will go for the juice, and will suck it all out clean, provided the weather is sufficiently dry to prevent its souring too soon for them. If the weather is wet, the juice will soon sour and spoil the fruit for anything.

The black-header, or rose-breasted crossbeak, *Gonaphea ludoviciana* (not an oriole at all), is the principal offender. "Male with head, neck, and upper parts mostly black, with white on rump, wings, and tail; belly white; breast and under wing covers of an exquisite red; female, olive brown, with under wing covers saffron-yellow: abundant in Europe and U. S.; perhaps our handsomest bird, and one of our most brilliant songsters."

It certainly is altogether too lovely for destruction. They are rather shy and stealthy in their habits, and, besides snipping open your grapes and plums, they will get away with a share of your green peas. But they are the only bird that I know of which consumes the larvae of the Colorado, or ten-striped potato beetle.

The presence of bees on the fruit necessitates care in picking and handling, otherwise you may feel their poisoned javelins; but blowing upon them with the breath will drive them off and send them away.

D. W. C. BACON.

Oneida, Ill., Feb. 14, 1880.

HOW TO SAVE YOUR GRAPES.

Mr. Editor:—I notice an inquiry in the Feb. No., as to whether or not bees will eat grapes. Many localities are very poorly provided with fall flowers or honey resources, and about the time the grapes begin to ripen, the honey season is almost, if not entirely, past, and the air is full of bees in search of anything they can find. Then, if the ripening grapes are disturbed, or any of them punctured or broken by any bird or insect, the bees are at once attracted by the smell, and when once at work on the grapes, they are not satisfied to stop when they have finished up all the wounded ones, but will examine every sound grape over and over until they find a weak or tender spot on the skin, which they can cut more easily than a strip of muslin tied around a comb. I have watched them do it. But another thing I have noticed: bees prefer going a little distance, rather than committing such depredations close around their homes. Notwithstanding all that has been said, I know of but one remedy, and that is, sow buckwheat at two different times, so that the last sowing will bloom until the frost comes, and your grapes are safe, and the grain of your buckwheat will pay as well as any crop you raise. Always sow it on the poorest ground you have. I could say much more, but will only say, "Try it."

Oxford, O.

D. A. McCORD.

In that funny, old-fashioned, behind-the-times, English bee-book entitled, *How I Made \$350 a Year*, they advise having the surplus honey stored under the hive, or at least under the brood-nest, as you may remember I once told you. Well, our friend T. F. Bingham, so I have been told, gives his bees room for surplus by putting one of his shallow, six-inch, empty stories, under the one containing the bees. The idea is at least novel if not useful.

PARK'S FEEDER.

LET me give you my plan for making a nice, cheap, and effective feeder. Take a piece of scantling $2\frac{1}{4}$ in. wide by $1\frac{1}{2}$ in. thick, and cut off as many blocks, $3\frac{1}{2}$ in. long, as you want feeders; take an inch bit, and bore a hole $\frac{3}{4}$ in. from the end of each block; bore through to within $\frac{1}{2}$ in.; then take the blocks to a vise, and bore a $\frac{3}{4}$ in. hole lengthwise until you intersect the inch hole; now trim the long end until it will just fit an inch hole; stop the $\frac{3}{4}$ in. hole with cork, and pour melted bees-wax in at the inch hole, until both holes are filled; pour out and the holes are lined with wax which prevents the honey from being absorbed by the wood and thus attracting robbers. See cut of prepared block below:



Now take a half-pint flask (cost $2\frac{1}{2}$ c.), fill with honey or syrup, and put in a cork with 3 or 4 little grooves cut in it; then bore an inch hole in the side of the hive where you wish to feed, put the block in firmly, letting it go in at least as far as the inner surface of the side of the hive; you can now put your flask of honey, neck down, into the inch hole, pressing it in firmly. The wax makes the feeder air-tight. I am using this style of feeder now, and so far it answers the purpose nicely. By this plan, you can tell when your feed is out, as far off as you can see the flask, and can replenish without disturbing the bees. You only have to take the bottle or flask out of the block, and fill up. When through feeding, remove the block and stop the hole in the hive with a large cork.

Later.—Since writing the above, I have made an improvement on the feeder. Instead of using a cork with grooves in it, I take a piece of wire-cloth about 3 in. long by $1\frac{1}{2}$ in. wide, lay it over the inch hole in the block, take the empty flask and press the cloth down into the hole until the rim of the flask rests on the edge of the hole, and remove the flask, leaving the wire-cloth in the hole, nicely formed to receive the flask; I then fill the flask with honey or syrup, put the block over the mouth of it, and press firmly the block with the flask on it, into the inch hole made in the hive. Bees take the syrup easily through the meshes of the wire-cloth. This makes the neatest and most advantageous feeder I have ever seen. Bees use a great deal of water too, and they consume time in going to the spring, and time is money to the bees. With this kind of feeder they can be cheaply and bountifully supplied.

To refill the feeder, gently remove the block from the hive, take off the bottle, after filling put it back on the block, then put the block in its place. The plan of removing the block can be dispensed with, by making little tin cups with the bottom of wire-cloth instead of tin, and putting them in the neck of the flask. You would then only have to take out the little cup to fill the flask. I am not prepared to make the cups. By this plan, they could be made the "Eureka" feeder, patent not applied for. I am stimulating several colonies, using feeders as described, and, from my window, I see that the flasks, filled this morning, are now, four o'clock P. M., nearly half empty.

J. P. PARK.

La Vergne, Rutherford Co., Tenn., Mar. 8, '80.

Your feeder is quite ingenious, friend P., but I rather dislike to bore holes in our hives, even if they can be corked up, as you say. Just one more objection; you can not go around to the hives and feed nearly as fast, as with feeders where you have simply to take a coffee pot, and fill them up as you pass along, as we do with the Simplicity shown in our price list. Your feeder feeds near to the cluster, leaves the entrance entirely unobstructed, and does not permit the escape of the animal heat from the cluster; besides it makes a very pretty appearance, to be able to see how the colonies are taking the food, even from the window where you are writing, as you say. Can you buy $\frac{1}{2}$ pint bottles, of any kind, at the price you mention? I think, friend P., you would better offer your feeders for sale.

HONEY DEW.

PRODUCED BY APHIDES.

PLEASE don't be disgusted with the honey-dew question just yet; I wish to bore you with a few words about Mr. J. C. Cline's letter* on the subject. He is wrong, I think, in regard to every thing except the willow and gum, as he very soon would have found if he had taken the trouble to climb the trees, and look into the matter more closely. The dew on the oaks and beech was produced by insects; I have seen them. That upon the gum and willow was produced by insects, and by the trees themselves.

This assertion sounds queer, does it not? but I can prove it next summer by sending you the insects from the different trees, and also the leaves of the gum and willow, with the glands upon them which secrete the dew.

The peach leaves also occasionally have glands on the stem which secrete a thick, clear, and very sweet fluid. My bees had a good time in my peach orchard during the first two weeks of last May, and I can tell you it came in at a very good time, as the fruit bloom was all gone, and the poplar (Tulip) trees were not in bloom yet. Mr. C.'s quotation from Virgil is too far fetched to be of any use as evidence. Climb the trees, Mr. C., look into the matter a little closer, and let Virgil go to the dogs.

Jonesboro, Ills., Feb. 3, '80.

W. J. WILLARD.

On last Saturday, which was next to the last day in Feb., I believe, I had occasion to pass through an old field which is thickly studded with young pines about six feet high. My attention was attracted by the hum of bees in one of the pines, and though there was no dew, the night previous having been cloudy, I saw clear drops of water, as I thought, hanging here and there on the bush. It proved to be genuine honey-dew, and the bees worked on it all day, though it was rather too cool for bees to work lively. By evening the drops, still hanging, had acquired the consistency of ripe honey, and so it continued all through the next day; but we have had a heavy rain since and I don't know whether I will see any more of it or not.

Now honey-dew in the winter and on a pine, I never saw or heard of before, though this winter has been unusually warm and dry.

*See page 70, Feb. No.

I had just read in GLEANINGS (specimen copy), a letter from one of your correspondents, stating that honey-dew was an exudation from the leaf itself, and that the insect theory was homeopathic, &c.; so of course I looked closely for the insects, and found them thickly clustered on the body of the same twigs, on the leaves of which the drops of dew were hanging. Always, over the drops of honey, I found the aphids; and always, under the aphids, I found the drops, and every appearance indicated strongly that the aphides were the producers and not consumers of the honey-dew. Though the pines were all nearly of the same size and appearance, perhaps not more than one in every twenty had the drops or the insects on them, but wherever the honey was, there, just over it and on the same twig, were the insects. The honey did not seem to have dropped and lodged, but rather to have run from the cluster of insects down the needle-like, pine leaves, and gathered in drops on their points.

JOHN C. PICKENS.

Flat Creek, Buncombe Co., N. C., Mar. 5, 1880.

NOT THE PRODUCT OF APHIDES.

Here is my observation of the honey-dew in Europe; never having seen any here, I cannot give an opinion as to its origin in this country, yet I think the results in both countries are the same. I never saw any in Europe except in the latter part of June or July, when acres and acres of rape were in bloom, which is raised there for the oil extracted therefrom. To my knowledge, it would come two or three times a week, in little sun showers or clouds. I remember going many times through rye fields, rye being in bloom about the same time, and taking my fingers and catching honey drops from the rye heads. Generally it would not be long before bees would come from the rape fields to the rye fields and gather the sweets. Now, some of your readers may laugh, especially those that believe in the insect theory; yet is it not reasonable to suppose that where there is such a large amount of sweets as is deposited in 20 acres or a square mile of rape, and very few bees to gather it, that it collects in clouds, and then rains down on us in showers? Now this is my observation and conclusion, and, being a "German," I intend to "sit" on it, until overwhelming proof to the contrary is offered.

C. HANKER.

Majority Point, Ill., Feb. 26, 1880.

That is right, friend H.; "sit on it," and stick to it, until they can get you off by fair and square proof. I confess to being a little loth to accept the idea that honey "rains down," but I shall be very glad to find that it really is so, and I think we all will; will we not, boys? 'cause, you see, we shall be looking forward hopefully, every summer, to a shower of honey. Such a shower would be a fine thing for some of our "blasted hoppers," if it would just come along right in the nick of time. But don't you think, friend H., we shall be more likely to see it if we plant broad fields of rape, such as you mention? Our neighbor H. was in a few days ago, and said he was just going to plant a field of 4 acres, and he hoped he should outwit the black fleas by having it early. My patch, sowed last fall, all winter-killed, as, in fact, did my late sowed, seven-top turnip. The other, sowed in Sept., is just now, April 5, putting out buds and very green leaves.

HONEY FROM THE FOLIAGE, AND NOT FROM THE BLOSSOM.

On p. 36 *American Bee Journal* for Jan., Prof. Cook notes some observations which settle the question of honey dew, showing that the plants have gland which secrete the nectar. The summer of 1877 was exceedingly dry in this vicinity. One day, I heard bees humming around the catalpa trees. As it was afternoon, and the July sun had long since dissipated any moisture, I was curious to see what could attract them in such numbers. In a moment a bee came near enough for me to see distinctly, and, judge my surprise when I saw that it was the under side of the leaf which was visited. After watching several, and noting that they invariably gave attention to the under side only, I broke off some of the leaves and found in the angles formed by the lateral ribs with the mid-rib—a bare spot; that is, I thought it had no epidermis. Certainly the down which covered the under side of the leaf was wanting here. The bees began work between two and three o'clock P. M., and worked until dark. They did not tarry long on a leaf, but visited them often. There were about three such "spots" on a leaf, decreasing in size toward the apex.

A kind of senna (*C. Marilandica*, I think but am not sure) grows wild here in profusion. Upon the upper side of the petiole, between its base and the first pair of leaves, is a dark knot about the size of a pin's head, which was the only part of the plant the bees visited last summer, although the large wild bees worked upon the blossoms, of which there was the greatest profusion.

Grand Lake, Ark., Jan. 20, '80. H. A. HARRIMAN.

CHAFF HIVE QUESTIONS; ANSWERED BY FRIEND TOWNLEY.

MR. J. H. TOWNLEY:—If you please, I have some queries about hives to hold chaff all the year, as you suggest in Nov. No. of GLEANINGS, 1879, page 442. The only difficulty in doing so (with me at least) is in preventing mold from gathering in the hives, on the outside part of chaff. If the outside box is tight and the chaff is about 6 or more inches thick, mold will accumulate here, provided we have a changeable winter. I have not experimented as you have (GLEANINGS, 1875, p. 134) with chaff 2 inches thick, or 3 inches; and if you, in using it 3 inches thick, have no mold, I would like to know it. It may be that the outside box should be made with many cracks so that the moisture may dry out better.

I have been thinking of making this of lath, and leaving a small space (say $\frac{1}{8}$ inch) between the pieces. What do you think about it?

In GLEANINGS, 1878, page 194, under the picture of your apiary, you mention the two story hive of A. I. Root's invention. Do you think such a hive convenient for using section boxes, when the boxes are held in a rack? i. e., is the upper story *not* in the way?

If I knew how many inches thick to have the chaff, and how to make the hive to get rid of the mold, then I, too, would be in favor of chaff around bees all the year.

PETER MOYER.

Clark, Mercer Co., Pa., Feb. 27, 1880.

MR. TOWNLEY'S ANSWER.

The bees were put into my first chaff hives (21) in Oct., and left there until the following May, when they were all taken out and the hives unpacked

without finding mold. The space between the hive and outside case is 4 in. The outside case is made of seasoned lumber, 4 in. wide, matched, and well painted. I have not looked to see if they were damp or moldy since.

I think I should prefer to make the outside box of two thicknesses of narrow shingles running up and down. They would keep the water out from the outside, and I think would admit enough air to the chaff to prevent mold; and, if painted with some cheap paint, would look well.

Mr. Root's two-story hive is very convenient for sections in broad frames, but for sections in cases it is decidedly inconvenient; the upper story is in the way. Don't use less than 4 in. of chaff; less *might do*, but more would be safer. J. H. TOWNLEY.

Tompkins, Jackson Co., Mich.

WHERE DID OUR HONEY BEES COME FROM?

HOW MANY KINDS OF HONEY BEES HAVE WE, ETC.?

FRIEND ROOT:—The following quotation is from a poem called "The Prairie," by W. C. Bryant. Though I wish to call your attention to only two lines, I have given the whole division of the poem in which they occur. It is so beautiful and so full of thought that you may deem it worthy of a place in GLEANINGS.

1. Is Bryant correct in saying that the bee was brought by man across the (eastern deep) Atlantic? 2. If so, at what time, and from what part of Europe, did it come? 3. How many distinct kinds of the honey bee are known? 4. Are our common black bees found in Europe? If not, this would argue against Bryant's statement. 5. We import Italian bees; is this kind of bee found only in Italy or does it inhabit the south and west of Europe generally? W. B. TERRY.

Keswick, Ont., Can., Mar. 12, 1880.

Still this great solitude is quick with life.
Myriads of insects, gaudy as the flowers
They flutter over, gentle quadrupeds,
And birds that scarce have learned the fear of man,
Are here, and sliding reptiles of the ground,
Startlingly beautiful. The graceful deer
Bounds to the wood at my approach. *The bee,*
A more adventurous colonist than man,
With whom he came across the eastern deep,
Fills the savannas with his murmurings,
And hides his sweets, as in the golden age,
Within the hollow oak. I listen long
To his domestic hum, and think I hear
The sound of that advancing multitude
Which soon shall fill the deserts. From the ground
Comes up the laugh of children, the soft voice
Of maidens, and the sweet and solemn hymn
Of Sabbath worshippers. The low of herds
Blends with the rustling of the heavy grain
Over the dark brown furrows. All at once,
A fresher wind sweeps by, and breaks my dream,
And I am in the wilderness alone. — W. C. Bryant.

I think, friend T., that Bryant is correct, but I am unable to say just when the bees were first brought over. Neither can I say from what part of Europe they came; but of this we are pretty certain: the bees brought over were the common black bees found all over our land before the advent of the Italians. I believe the bees of England were of the same variety, so that it would

seem quite probable our bees were brought from there, and, very likely, by the Pilgrims, when they founded our republic. It seems to me I have seen something to the effect, that a swarm of bees was brought over in the Mayflower, but I may be mistaken. If any of our readers can put their hands on these records, will they please let us know about it? I presume you have all heard of how the Indians called the honey bee "the white man's fly," simply because it was by them considered a harbinger of civilization. Friend Cook, in his Manual, gives some facts in the matter, and I am impressed that the matter is fully discussed in some of the articles in the earlier volumes of the *American Bee Journal*; but, although I have all of these works in my bee library, and, in fact, almost all that has been written on bee culture, I am at present unable to find what I wish. In fact, the number of the books makes it a task to look up such things. One of the clerks has now the matter in hand. I believe there are none of our native black bees to be found in Italy. Perhaps our friend Frank Benton may be able to throw some light on the matter. I know that he has bestowed a great amount of study on the matter of the different races of bees.

BEE BOTANY AND ENTOMOLOGY.

RED BUD.

I SEND, by to-day's mail, some flowers, which are called "red bud." Please let me know what they are. The tree is large and these flowers put out all around the stem. Bees have been working on it for two weeks. My bees were working on the white hyacinth on the 4th of this month. They were bringing in pollen, I think, from the witchhazel the last of Dec., when we had a freeze which killed all the blooms. This is the mildest winter ever known here. We have had ice only about four or five times.

W. S. LOGAN.

Keachi, De Soto Parish, La., Jan. 22, 1880.

The tree mentioned as Red Bud is of the genus *Cercis*, "Judas Tree" (so named from the old notion that this is the tree whereon Judas hanged himself). There are only two species, *Cercis Canadensis* (American Red Bud, to which the specimens you send belong) and *Cercis Siliquastrum* (European Red Bud). It is doubtless a good bee plant, as it belongs to the noted family Leguminosae or Pulse. "It grows wild from N. Y. south, but probably not in Canada, as its name implies" (Gray's Botany). Will some of our nursery men inform us if it will grow and bloom in Ohio?

S. VALENTINE, Double Pipe Creek, Md., has sent us some albino bees in a cage. They are perhaps a trifle lighter in color, than those sent us by friend Pike, but I should not have noticed them as different from our usual light colored Italians, had not friend V. written that they were albinos. The difference is just in the downy hairs, as explained in the A B C. The bees seem unusually quiet and gentle; although the cage contained no water, not a bee was dead, and they all seemed as quiet and unconcerned, as if they had always lived in such a cage in the mail bags. It seems to be the general opinion that such bees are not hardy, but it *may be* a mistake, after all.

Heads of Grain, From Different Fields.

HOW TO TRANSFER MOVABLE FRAMES.

I HAD about 30 colonies last spring to change from American to Langstroth hives. I studied about a week upon a plan of doing it. Having no stairs to walk around, I have to do the best I can without that auxiliary; I wait until I get to bed, or else get close to the chimney corner, and hang my head over the back of the chair; then something has to come. Well, I completed my theory to my entire satisfaction, also equalizing my bees at the same time. It may be it will do for your A B C. That is where I belong, but I commenced at the wrong end. Now, for my plan: I got a tight box, of the right size to hold the Am. frames, nailed strips inside to hang the frames on, and used a piece of carpet for a cover. If you have any hives in use of the same size as those you are changing to, borrow 4 or 5 frames; if not, take out of different hives that amount. Shaking off all of the bees, place them in the box, carry the box into the house, transfer the combs to the new hive, and now you are just ready to commence.

Take the hive you have prepared, and the empty box, and commence at (we will say) No. 1. Move it about 3 ft. to one side, set the new hive on the old stand, then lift out one frame at a time and shake the bees in front of the new hive, placing the combs in the box, carefully keeping the box covered bee-tight. So continue until all are hived, and the bees sticking to the old hive are jarred off, and the hive taken entirely away. Then carry the box into the house, and transfer, and go to No. 2, and repeat the process until night. At night, you will have a box full of combs and no bees. Put them into some of the hives until morning, and then take them out again to start with. If they get cross, or commence robbing, stop a day or two. To equalize, give the combs out of a strong colony to a weak one. You see none of them get their own combs. I use thin strips of wood to fasten the combs in with, and I tack them on one side of the frames before I commence to transfer. I do this for two reasons; viz., half the work is done before you disturb the bees, and it prevents the brood from being damaged by coming in contact with the table. R. ROBINSON.

Laclede, Fayette Co., Ill., March 18, 1880.

Your plan is a very good one, Friend R., when we have frame hives to work with. Should you put a very weak colony on the combs taken from a strong one, however, it might make some trouble. I have often practiced your plan, and once recommended it for extracting, taking all the combs from each hive; it did very well, but I finally decided it was rather better to give each stock their own combs.

MAKING GRAPE SUGAR CANDY FROM THE DAVENPORT GRAPE SUGAR.

Friend Novice:—I must tell you my troubles in my first attempt to make grape sugar candy. I ordered one, 110 lb. box from the Davenport Co. They charged me $4\frac{1}{2}$ c on the cars. Why do they charge so much more for it than the price you gave in March GLEANINGS? But I was going to tell my

troubles in making it up. I made one batch of $4\frac{1}{2}$ lbs. to try it, and it hardened all right. Then I made about 50 lbs., and put it in frames of $4\frac{1}{2}$ lbs. each, and waited just one week and it showed no sign of hardening. Then I stirred in to each frame a half tea-cupful of sugar and a table-spoonful of flour, and in 24 hours it was all right. Now, what was the trouble? I did not melt all of the first $4\frac{1}{2}$ lbs., but mashed the lumps. Of the last, the dish was so full I let it all melt. If heating it too hot will keep it from setting after it is made up, you ought to mention it in GLEANINGS for the benefit of the bee-keeping fraternity.

I have been transferring bees in March. One of my neighbors cut a tree for wood, the 18th, and found a swarm of bees in it. I went and transferred them for him, and had good success. M. D. YORK.

Millington, Mich., March 21, 1880.

It is nothing unusual for manufacturers to charge more for their goods than others do, and I presume the company charged you their regular price for small lots. The cheaper grades of grape sugar are not as hard as the finer, and are also much slower in assuming the solid state, after having been once melted. They are also, like honey, quite sensitive to a slight increase of heat, and after having been the least overheated, will utterly refuse to solidify afterward. On this account, I said in my directions, that it would answer as well to warm the grape sugar just enough to allow it to be mashed into a paste. If you are careful to do only this in heating it, it will harden very soon, after stirring in the cold coffee sugar and flour. In spite of my cautions, I find a great many have melted both sugars right up together, and have then had to wait a week or more for their candy to harden, if, in fact, it hardened at all.

REPORT OF CHAFF HIVES.

I have 40 swarms in chaff hives, in good condition, each having brood; while I found brood in only one of the single walled hives. Bees in the single hives consumed 40 per cent more honey than the chaff packed bees. My hives are all two story and all filled, in upper story, with chaff. I have the single chaff hive, the double chaff hive, and the tenement chaff hive. I think so much of the tenement that I shall make 25 of them for this season's use, which is accommodation for 100 swarms. A great many bees will starve this spring, in this section. I shall not winter in anything but a chaff hive again.

Monticello, Wis.

W. P. CLEMENT.

BEEES ON THE KICKAPOO RIVER VALLEY.

Bee culture and movable frame hives are almost a new thing in this part of the country. When Mr. Gill and myself first commenced to use movable frame hives, people laughed and made a good deal of sport of us. They said our bees would never do anything because we smoked and handled them so much. Some said we smoked them three times a day regularly. But last summer we took considerable honey from them, while box-hive men got scarcely any. Then they wanted to know how we got so much honey when they got none. We told them we went out every morning before sunrise and smoked them all out of the hives and started them off to work. Now most all bee-men around here want some of our kind of hives and bees (Italians) and a

smoker. One man sent word to us that he heard we have a new kind of bees (Bohemian bees), and that he was going to get some Bohemian kings from us next summer. If you know of any one that wants any Bohemians next summer just send word to me.

Viola, Wis., Mar. 16, 1880.

G. W. WILSON.

A VIOLENT ATTACK OF THE "BEE FEVER."

Mr. Root:—I am in great earnestness about the Italian bees. Your journal sets me in flames; I read every word from the outside page of the first cover to the bottom of the last cover, advertisements and all, except some old standards that I almost know by heart. I feel sorry when I get through that there is no more of it to read. I look upon you as a public benefactor; and I pray God that you may live to extreme old age to carry on this work; and that you may be rewarded pecuniarily here, and with eternal life hereafter.

Reidsville, N. C., Mar. 15, '80. WM. S. FONTAINE.

Gently, gently, friend F. I am very much obliged indeed for your kind words and wishes, but I wonder if you will still feel the same after you have been through an attack of Blasted Hopes. Your remark about the old advertisements has just suggested, that at least one might give place to something fresh, and so I have had our extractor ad. taken out and put in the price list. The front page, too, might be changed, at least in part; but the remarks about patents, I can but feel would best be constantly before the new scholars that are coming up, if not wanted by the older ones.

TONGS FOR LIFTING OUT THE FRAMES.

By the same mail as this letter, I send you a model of an instrument for lifting frames out of hives so that the other hand is at liberty to work on the comb, and is removed from the bees, and not apt to be stung by bees crawling on the hands. It was invented by Charles Durant, of this place, and he does not want any patent either; so, if it is of any merit, use it to the best advantage of yourself and subscribers. Make it of No. 6 or 7 wire, and it will be strong enough for any frame.

KILLING "ROBBER BEES" ON SUNDAY.

One of your correspondents in the last No. speaks of a man staying home Sunday and killing Italian robbers. It reminds me of an old man who was very spiteful against "them new bees," and so sat down and killed every yellow robber he saw going into the hive. A few days ago he called me in to open his hive, as it was growing thinner every day; and when I opened it, there was a black queen impregnated by an Italian drone, and he had been killing his own bees! It is needless to say, he was cured of "killing robbers."

STARTING AN APIARY ON \$2.50.

I started keeping bees sixteen years ago with a two and a half gold piece that my uncle, Dr. T. B. Hamlin, of Nashville, Tenn., gave me as a present. I was the first to call his attention to the Italian bee. Bees have wintered well in this section. I have fifty swarms, and have lost only one so far. A year ago there was a disease that destroyed hundreds of swarms in this section. Alonzo Bradley, a neighbor, lost 70 out of 80 swarms. I lost 20 out of 49 last season. No surplus honey was made in this section, owing to wet weather.

E. H. PHINNEY.

Lee, Berkshire Co., Mass., March 9, 1880.

The device mentioned is certainly very ingenious; it is a sort of double tongs, made of two pieces of wire. But, friend P., I feel quite sure that practiced hands would much rather grasp the top bar of the frame without any tongs. Unless the frame is very heavy, I almost always pick it up with one hand. It was a rather sad joke, truly, on the man who tried to kill his neighbor's bees. How many times we see the same spirit manifested, simply because people are laboring under a misapprehension, and I do not know but that a want of charity almost always goes hand in hand with—shall I say ignorance? We are glad to hear from a pupil of our old friend, Dr. Hamlin.

PAINT FOR HIVES.

Please have the kindness to tell me of your present opinion of Averill's chemical paint as compared with white lead. The latter I do not like. It rubs off like whitewash when exposed to the weather for a year or two.

J. R. EOFF.

Powhatan, Belmont Co., O., March 8, 1880.

It seems to me, friend E., that either your lead or oil, or possibly both, must be at fault, if the paint rubs off as you say. I discarded the Averill chemical paint because it peeled off, and also because it was much more expensive than ordinary lead and oil. All of the mixed paints advertised so highly are more expensive than simple pure lead and oil, if I am correct; and if you get really pure articles, the lead and oil are, so far as my experience goes, in the long run, the most lasting. Get them of some reliable dealer whom you know, and tell him you want a real, genuine article, and expect to pay for it. We now pay \$9.50 per hundred for lead, and 80 cents per gallon for the best boiled linseed oil. Buy your lead in 100 lb. kegs, and then you do not have to pay anything for the package, as you do where you buy in smaller quantities. If I am wrong in anything I have said above, will some of those who are experienced in painting, especially painting hives, please correct me? and, while I think of it, let us have the experience of a good many on the subject. Paint for hives is quite a big item, and we all wish the latest and best information on the subject.

A SIMPLE WAY OF FEEDING SUGAR.

Two years ago I could not go near bees without being stung, but last summer, with your help, A B C, and a smoker, I handled cross bees very successfully. I got a dollar queen and 10 oz. of bees of you last August. She produces very dark three-banded workers, but they are gentle, and I think good workers. I am feeding sugar by putting it in a shallow pan and pouring water on it, stirring, and then splitting points of shingles and putting them in the water for the bees to light upon; it seems to be a success, as they are busy on it every warm day, and no bees get drowned. They take up all the water in a short time. Then you have only to pour on more water, and they will take all the sugar. I got a colony late in Nov., that had little or no stores, and fed through the winter by laying empty comb on top of the frames, covering it with sugar, and then wetting it. They took down and stored more than one pound in one mild day in December.

Huntsville, O., Mar. 20, '80.

A. C. MILLER.

Your plan is a very good one, friend M., but instead of your pans that are expensive, and too smooth for the bees to climb up on, I would use the Simplicity feeders, and then you will not need any bits of shingles, for a bee never drowns in them, even if there be no float. Pure sugar, and pure water, can not well be improved on as a feed. If no pollen can be gathered, of course, they should have some flour or other substitute for pollen.

ODD-SIZED HIVES AND FRAMES.

Will it pay for me to change hives? I am using a two-story hive containing 16 frames in the complete two-story, and frames about 10 in. sq. I have 5 stands, and all that I want is enough to supply family use. From what I have read I think that the bees will be more determined to swarm in the hive I am using, than large ones. If a change would be for the best, I should like to make it this spring before I get too many on hand. On account of your experience I ask you, will it pay to *change*, every thing being considered,—transferring, wintering, swarming, honey, etc.?

JAS. MAHAFFEY.

Newbern, Parth. Co., Ind., March 16, '80.

I should most certainly change, and that, too, before you get a single frame or honey box of an odd size. Even if the bees would do just as well in your small frames, I should change for the sake of having my hives and implements correspond with the standard ones in common use. Every season, and, in fact, almost every day, we are coming nearer and nearer to one uniform size of frame and package for honey; and the inconvenience of odd and ill-matched hives and frames is becoming day by day more apparent. Manufacturers of hives and implements are, some of them, entailing a fearful amount of trouble on some of their customers by their heedless and unscrupulous way of making all sorts of odd sizes, without any thought or care as to whether the goods they send out will match those they have sold a year or two before or not. The dimensions we give in our price list and the A B C have now been many years before the people, and as no one else has ever attempted a similar classification, these dimensions can not well be changed, if we would. The Langstroth frame, as I have given it for years back, is now almost universally accepted, not only in our own but in other countries all over the world.

CUTTING A BEE-TREE BY GREEN HANDS.

A. I. Root:—Last Tuesday, Mar. 23d, a hand and myself went to the woods to cut a shingle tree, selecting a large chestnut; and when about half down, as I was looking up the tree to see which way it was going to fall, I saw bees going in and out at a hole in the tree. The tree in falling mashed the part containing the bees, scattering the bees and honey in every direction. Although it seemed impossible to save the infuriated little fellows (but thinking I would try), I ran home and got some help and a movable-comb hive and other necessities, and we began business with veiled faces. We gathered up the comb, which was covered with bees (this being, as we thought, a very dangerous business, and none of us had our lives insured). After taking out a part of the comb, I went to cutting out and

fastening comb containing honey and brood in the frames. I filled 4 frames in this way, then went to gathering up the remaining comb, and brushing the bees off into the hive. After getting through with the comb, we found that we had something more to do. The scattered bees clustered in a part of the hollow tree, and these we scraped up with our hands and put in the hive, and after getting them bived we brought them home. They are working nicely, and I believe they are the strongest colony I have. We got about 30 lb. of honey out of the tree, and 5 lb. of wax. I don't know whether we got the queen or not. How can I find out?

A. C. W.

New Matamoras, Wash. Co., O., Mar. 29, '80.

If you can not find the queen by looking over the combs, friend W., keep an eye out for queen cells; if the queen is lost, you will be almost sure to find cells started by the next day. You did quite well for new hands, but you did not tell us whether or not you got stung any. I presume not; for, if you worked carefully as you seem to have done, there was hardly any need of it.

WHEN SHALL WE HANG SHEETS OF FDN. IN THE HIVES?

How early in the spring will bees begin to use fdn. in the brood frames? Will it do just as well to put 2 or 3 sheets in at once, with a natural comb between them, where the colonies are strong? The fdn. I propose to use was put in the hives last fall, and the bees made a little start on it, but then concluded they would rather do it this spring; so it isn't quite "raw."

M. SIMONS.

Brocton, N. Y., Apr. 6, 1880.

If you separate two brood combs by hanging a sheet of fdn. between them at almost any time of the year, the bees will build it out, because they can not very well help doing so. If their brood nest is forcibly divided they must fill the vacancy with a comb, or suffer severely. As the sheet of fdn. is right there, they build it out, but to divide the brood nest thus, and give them such a chill, damages the colony unless it is very strong, or the weather is so warm that they have commenced building comb. I would not advise giving them fdn. to build out, not even sheets that were partly built out last fall, until fruit trees are in bloom, or, at least, until just before the time of fruit tree bloom. This is quite an important matter, and one where the A B C class may make trouble by untimely "tinkering." You will have to learn just when to do these things, to a great extent, by careful observation. Spread one colony, and watch daily to see what the effect is. If it lessens the number of flying bees by causing more to stay at home to keep the exposed brood warm, it is a damage, and you will best wait awhile before doing any more.

REPORT FROM OUR FRIEND C. C. MILLER.

You ask, in February GLEANINGS why I don't set the example and put the number of hives to my name. I should count it presumption to have done so without your approval, and, moreover, I am not anxious to give my own number, but want very much to see the number given with *every* signature in GLEANINGS as well as other papers. Possibly there are objections that I don't see. A bee friend in Kansas writes me that he thinks it desirable, and

if you request it, I think the friends generally will accede cheerfully. My own report is this: I commenced, May 1st, 1879, with 154 stocks, increased to 250, taking about two tons of comb honey. The last 50 stocks were unwisely made, as I doubled up afterward and had left to put in cellar, 230 stocks. Nine died in the cellar, and I expect to double up some more bringing the number to perhaps not much over 200 by May 1st. Till then, I must sign myself—

Marengo, Ill., April 5, 1880. C. C. MILLER, 154.

LOCATING NEAR A BARNYARD.

I have located my bees near a barnyard. A friend says that it is not a good location on account of the effluvia from this source. Is this so?

Hudson, N. Y., Mar. 22, '80. J. MCNEILL.

I should like the barnyard above all things, friend M., and if I could not take care of the effluvia, by converting it into a fertilizer for honey plants, I should consider myself helpless. Of course I would not have the hives where the occupants of the barnyard could get at them, for you might then have a scene like our last month's cartoon; but I would have a nice barnyard, and a nice apiary too.

A NOVEL WAY OF FEEDING BEE CANDY.

As to your point of giving bees water, I make a trough of flour candy, brush the inside of trough with melted beeswax, lay it on a thin board or piece of tin, place it on top of the frames under the quilt, fill the trough with water, lay 2 or 3 little sticks across the trough that bees may get at the water, and the consequence is that now, in my hive which has this arrangement, the bees are eating up the trough finely and taking the water, and that very few bees can be seen flying from that hive at any time, even when others are out very strong.

T. L. VONDORN.

Omaha, Nebraska, Jan. 24, 1880.

Thanks, friend V. Since you have mentioned it, it has just occurred to me that I can have the girls leave a cavity in our maple-sugar bee-candy bricks, pour in some wax, and then pour it out again, so that the cavity will hold water; give the bees a brick, pour in some water, and let them eat it up, feeder and all.

GOOD FOR A MICHIGAN SCHOOL-MA'AM.

A young lady school-teacher in the town of Speaker, while picking wild berries, found a swarm of hybrids on a bush. Not liking to lose the prize, she loosened her skirt, fastened one end, shook the bees in, carried them home, and, for aught I know, is today a prosperous apiarist,—a good sight for some young A B C bee scholar.

J. B. GRAVES.

Richmond, Mich., Jan. 16, 1880.

No wonder Michigan has the leading agricultural college of the U. S., when even the school-ma'ams have energy and determination to perform a feat like this. I am afraid some of our Ohio school-mistresses would not even know what a swarm of bees was, if they should find one. I knew of two women who let a swarm hang on a tree in their garden all day, and afterward said they did not know they were of any value to anybody. Has any other state a school-ma'am that can equal Michigan's daughter? Perhaps I am mistaken, and there are lots of them equally smart, but nobody knows about it.

THE MINISTER AND HIS BEES.

Friend Root:—I suppose you think by this time that you have "got rid of me," as my subscription expired with the Dec. No.; but you are mistaken, for here I am again, and here is my dollar for another year, beginning with Jan. You see I made about \$40.00 with my bees last season, and had I not read GLEANINGS for several years, it is very likely that I would have been *minus* that amount, not to speak of the pleasure I have derived from devotion to my little pets. I enjoyed those cartoons very much; especially some of the first, for they hit me pretty close. I wonder, however, if some of the fraternity haven't had a little of our experience?

One day I came home, and found my wife a little "out of sorts," for you see she had been hanging out the clothes, and the bees objected, and (like the "rooster" we read about in the school book) drove her "out of the yard." This recalled to my mind a nursery rhyme and I said:

"The maid was in the garden,
A hanging out her clothes,
When along came a 'honey bee'
And 'stung her on' her nose."

Then she ordered me to get my smoker and keep the bees away until she finished her work, and so I did; but I thought to myself, wouldn't I enjoy a scene like this, if some one else was in my boots? But it is time to stop this foolishness, so send along your GLEANINGS for I'm getting hungry for something new.

L. S. JONES.

New Philadelphia, O., Jan. 23, 1880.

HIRING BOYS TO TAKE CARE OF THE BEES.

I have 17 colonies of bees on summer stands. Will it pay me to hire a boy to attend to them? As I am blacksmithing, my bees don't get the care they should have. Have you some boys that have learned to handle bees who could be got? and what would be the wages?

CHAS. BRELSFORD.

St. Paris, Champaign Co., O., Jan. 23, 1880.

If you have plenty of work to do yourself, I think a boy could be made quite profitable, but, in all probability, you could get one right near your home, just as good, and a great deal cheaper than one we could send you from Medina. You will have to look over his work often; you will have to be kind and patient with him, and be his friend, and he will be worth a great deal to you, and you will likely be worth a great deal to him. Be cross to him, and scold him when he does things exactly as he was not to do them, think him a fool even if you do not call him so, and he will not be worth 4 cents a day. I have tried both ways, and know. Almost any boy who is not really vicious or lazy can be taught to like bees, and to enjoy working among them; and, when he does this, he will be profitable at the wages boys ordinarily receive.

WIRE-CLOTH SEPARATORS.

My wire separators did well,—better than the tin or wood, as they allow the heat to be more freely diffused, and the bees to pass and work more widely on the starters, over the whole of the sections, as though they were working in one large empty box. The open wire also enables you to see at all times what they are about, even better than if divided with glass. I am satisfied that strips, or ribbons, of wire woven with meshes—say from $\frac{1}{4}$ to $\frac{1}{2}$ inch sq., out of very fine wire, would make the best and the

cheapest separators that could be made. But it is too tedious to undertake to weave many of them by hand, though it could be done with a little loom for the purpose (which would cost but little) very handsomely and rapidly.

J. B. TURNER.

Jacksonville, Morgan Co., Ill., Jan. 9, 1886.

I agree with you, friend Turner, and since tin has come up so much, Mr. Gray and I have had some long talks in regard to the matter. At present, a square foot of wire cloth is a little cheaper than a square foot of tin, and I am quite sure it will answer better, for the reasons you have given; although I am a little inclined to doubt that a mesh $\frac{1}{2}$ inch would do, for I have seen bees bulge the combs when crowded for room, into a hole not very much, if any, larger than that size. It would certainly be safe to make them $\frac{3}{4}$, and perhaps $\frac{1}{2}$ may be all right. Who will experiment fully on this? Of course, it will be an advantage to have them large enough to have the bees pass through easily, if we can. Well, as wire cloth cut into strips will ravel badly, we must have it woven of just the right width for separators, as you say, friend T., and the man who gets up a machine to do this cheaply, will find a great demand. Meanwhile, friend T., we will try to remember you for having suggested the idea, and demonstrated that it could be done. As we wish to use a very fine wire, and make a very large mesh, we shall have to use wire cloth with hexagonal meshes, like that used for wire fences, etc. If you do not move fast, perhaps I shall do it first. For the Simplicity sections, it will need to be just about $3\frac{1}{2}$ in. wide.

LENGTH OF TONGUES, AND THE RED-CLOVER QUEEN.

Hurrah for the gift of tongues! The tongues of the bees you sent from the "red-clover" queen are *lots* (?) longer than ordinary bees' tongues. But, hold on; let me crow a little. I can show bees that will beat that. See specimens I send to-day. They are sisters of those that made you the most honey in 1878. To compare the lengths of tongues by the microscope, stretch them out side by side upon a glass coated with mucilage. May be they shrink,—dry up—in shipping; so please compare these with the red-clover bees' tongues.

Query.—After all, do they not owe their success more to long-windedness than to long-tonguedness?

The bees sent are, or were, "boss" workers, and died like martyrs for the cause of—science (?) and bee culture.

OLIVER FOSTER.

Mt. Vernon, Iowa, Jan. 19, 1886.

I shall have to explain that friend F. sent, about a year ago, to know what I would take for the stock in my apiary that had gathered the most honey in the preceding summer of 1878. I sold him the colony, and it is its queen that he is speaking of, and some of her bees that he has compared with some I sent him from our red-clover queen. I confess, friend F., while I admire and approve of these microscopic tests, it seems to me a safer and shorter cut, to select from queens whose bees gather most honey. We shall then include long-windedness, and every thing else; for we shall get exactly what, and almost all that, we desire in honey bees—those that are the best honey gatherers.

I have five colonies of bees. I bought one weak swarm in the spring, and they gave me three little swarms on three successive days—the 25th, 26th, and 27th of June. I bought empty combs for them, and they increased nicely in brood, but gave very little honey.

A HINT ON BEE-HUNTING.

I also found, by lining from my watering-trough, one black and one Italian swarm, about $\frac{3}{4}$ of a mile distant, and about 20 rods apart. The blacks had about 100 lb. of honey and comb; the Italians, which I judged by the comb to be a swarm of this season, had about 60 lb. I saved the bees of the latter, hived them, and fitted their empty comb into the frames, bought a few more combs, and gave them their own honey, what we did not eat ourselves, and some coffee A sugar. The weak swarms I fed some of the black-bee honey and coffee sugar. Do you think they will get through this winter? They have plenty of honey, but very little bee-bread.

RADISHES AS A HONEY-PLANT.

I sowed a patch of radishes, which were in bloom in the last of October, and the honey-bees and bumble-bees were on it in a regular swarm. About $\frac{1}{2}$ carried pollen. I will sow some for next fall if I live. They bloom about "robbing time."

BRIMSTONING BEES.

I see in GLEANINGS that some bee-men still brimstone their bees which have not honey enough. I am afraid they will get "brimstoned" if they don't repent. I believe that God has given them only for us to use their surplus, and if I have any minus honey I will unite them to others or feed them.

H. L. WARSTLER.

St. Johns, Clinton Co., Mich., Jan. 11, 1883.

I guess you keep a sharp look out, friend W., or you would not have noticed the bees on the watering trough. As bees always hold to a certain place for getting water, after they once get accustomed to it, we can often line wild bees by this means. After filling up with water they always take a direct bee line for home, much more direct than when they have been fed diluted honey, or something they will gorge themselves with.

What kind of radishes were yours? and when did you sow them? Our first crop from the greenhouse was radishes, and it was such a novelty to see fine radishes in the month of March, that it made quite a stir among the boys and girls. They seem to be remarkably easy to raise; with the stimulus of a little guano, they made such a wonderful growth, it was worth all they cost just to look at them.

BALLING OF THE QUEEN: SOME EXCELLENT SUGGESTIONS FROM FRIEND MARVIN.

The balling of queens is sometimes caused by poison of the bees, on the queens or bees, on the hive or contents, or even in the air. The remedies are, feed highly scented feed, smoke or change the odor of hives, bees, and queen, and caging the queen has sometimes to be resorted to. A robber bee in a hive sometimes starts the balling. A scarcity of pasturage, or lack of stores in the hives (creating idleness), or a want of eggs, or of brood in some of the stages of development, causes the balling and renewal of some queens. Balling is not liable to occur in a No. 1 stock. Place all such stocks in good order, and have no weak ones to demoralize the apiary.

St. Charles, Ill., Jan. 9, 1886.

J. M. MARVIN.

SOME EXCELLENT HINTS ON CELLAR WINTERING.

My cellar is ventilated by means of a large pipe entering a tall heated chimney, giving abundant opportunity for the ingress of fresh air; and, although the cellar is only 18 by 28 ft. and 8 ft. high, the air does not get foul with the 144 swarms in it. When the weather is warm, however, I keep large cakes of ice on two stands which extend up nearly to the top of the cellar; this keeps the bees quiet during all warm weather. I put them in, in Nov., at the first cold spell, and before any dampness could condense in the hives. This is the simple secret of my success in cellar wintering. Of course, I watch them closely, and keep my thermometer as near 40 as possible. Last year many of my swarms bred in the cellar, until when I took them out there was a heaping half bushel of bees in a hive. Some had the lower story packed full, and an 8 inch half story entirely full, and would have starved, had I not taken all the bees in the half story and divided them around among some lighter swarms which had plenty of stores. They all received the new comers kindly except one or two colonies which also concluded to do so, after a vigorous smoking. If you can give these thoughts to the class, it may prevent some failures in cellar wintering. H. V. TRAIN.

Mauston, Juneau Co., Wis., Mar. 20, '80.

GOOSE QUILLS—A SUBSTITUTE.

Friend Novice:—I am somewhat surprised to see you propose to send goose quills over the country for brushing bees from combs and sections, when every bee-keeper has at his own command the very nicest brushes for that purpose. The first time you kill a chicken for your table, before scalding it just chop off one or both wings at the first joint, so as to get a wing brush with about a dozen quill feathers with it, and you have it. There! I fear I have interfered with your business and spoilt a large trade in goose quills, so I will shut right up now.

HOW TO GET ROBBER BEES OUT OF A HIVE.

I see it is generally recommended to shut the entrance of a hive which is being robbed, until just at night, then open and let the robbers go home. This is, I think, very objectionable, for they are kept there perhaps all day to worry the rightful bees, and are also likely to ball and kill the queen. Now any bee-keeper can get every, or nearly every, robber bee out in 15 or 20 minutes. Take a bunch of weeds, grass, a broom, or almost any kind of a brush, and swing it briskly back and forth close to the entrance. It will not prevent them from coming out, but it will prevent them from going in. I have sometimes closed the entrance for 3 or 5 minutes, then brushed away all outsiders, and again opened the entrance and the robbers would pile out like a swarm coming. This repeated a few times will surely be a success. Then, to keep them out, I have never yet found a better plan than I gave you two years ago; that is, cover the hive with a cloth or blanket. I never move a stand to a new location.

A. A. FRADENBURG.

Port Washington, O., April 5, 1880.

Very good, friend F. I have practiced the same plan in getting out robbers, but, for some reason, I have never before thought to speak of it. I have had an opinion that many of the rightful owners came out too, and got brushed away, but perhaps it would do no great harm; they could stay out, until some other time," as a wholesome les-

son for not guarding their domain better. Some way I always imagine a "wing," has a look of untidiness, suggestive of "dead hens," but perhaps I am notional. I believe I like a feather best.

HONEY COLUMN—WHAT IT DOES.

I have sold all my last crop of honey. I sold 175 gallons from your advertisement in GLEANINGS, 48 gallons of which I have as yet got no pay for. Thanks. My first swarm came the 19th inst., and 6 or 8 have come since. They are all very strong, the second stories having been left on through the winter, mostly full of honey, which is really in my way now. I noticed the first new honey coming in yesterday. The willow is just commencing to bloom.

C. C. MARTIN.

Benton, Bossier Par., La., Mar. 27, 1880.

FROM A VERY NEW A B C "CHILD," WHO DON'T QUITE KNOW WHERE HE DOES BELONG.

As I have been reading GLEANINGS IN BEE CULTURE for the last 3 months, I think I ought to give you a little "inkling" of my experience in bee culture. But, fearing that you might be a little bothered to decide what department to put me in (as I see you have several in GLEANINGS), whether Smilery, Grinnery, Growlery, Blasted Hopes, or Humbugs, I have so long hesitated; and yet, for fear you might seat me "in the wrong pew," I will for the present content myself with giving my report for the past year.

Beginning with the spring of '79, I had 10 colonies, not very strong. Increased them to 15 by artificial swarming, and got—well, *honestly, about thirty-five pounds* of comb honey, not very nice. Early in the fall, I discovered that my colonies were not so strong, some of them at least, as I could desire, and some of them had stored but little honey for winter. This I attribute to three causes; viz., the poor season, a cider mill on one side, and a sorghum mill on the other. Well, late in the fall, I found one stock queenless, and united it with another. Another one ran out of "grub" at home, and moved in with their next door neighbor. This reduced my number to 13, and to-day they all seem to be well and hearty, though some of them are a little weak, and some of them may have to be doubled up yet before the peach-tree blossoms. But don't put me in "Blasted Hopes," for "I've been there" long ago. "I'm not a chicken," by any means. I have been in the bee business more or less (mostly less) for a number of years, and experimented a good deal with bees and bee fixtures, but the season of '79 was the poorest honey season in these parts that I have any recollection of.

JACOB COPELAND.

Allendale, Ill., Feb. 17, 1880.

BLUE THISTLE.

I notice in March No., pages 129 and 130, that Duff and Wilson seem to be particularly averse to blue thistle, and, in reply to friend Wilson, would say that I was raised in the *blue thistle* region of the *Shenandoah Valley*, and I have observed that Loudoun County and, in fact, all the counties in Va. in which the seed in question is found, are the richest counties in the state. Our best farmers in these blue thistle regions all admit that a crop of the thistle is equal to a crop of clover when ploughed under at the proper time, and it need not interfere with other crops when properly managed. All friend Duff has to do is to give his bees a fair chance on a

field of blue thistle, and he will be convinced of its untold value as a honey plant. We have no other plant growing in Va. which produces so much honey as the blue thistle, and no honey which commands a better price in the Baltimore market, white clover not excepted. If our friends need any statistics, I will try to obtain them. J. W. SHULL.

Pleasant Dale, W. Va., March 11, 1880.

Well, friend S., there is one comforting thought about the blue thistle as a honey plant, it would not have to be nursed and fussed with in hot beds, as do the spider and Simpson plants, to get them started. After all that has been said, I do not feel very much afraid of it.

HOW AN A B C SCHOLAR SUCCEEDS IN MAKING CHAFF HIVES.

The chaff hives arrived safe, in due time. I ought to have acknowledged this sooner, but was anxious first to have them built, and see what they looked like, and if they were all there correct. You have a talent for packing in your packing room, and you ought to be praised for it. I intended building them myself, although not a carpenter, and having never seen such a thing as a chaff hive before, had not the least idea how any of it was to go together. When the box was opened, and the stuff for 5 hives, in so many pieces of different sizes and shapes, was laid on the floor in a pile, you can hardly imagine my bewilderment. But, undaunted, I went at it, following carefully the directions in the A B C book, and succeeded in putting them together without the least trouble. By this time, they are all in their places, well painted, the bees comfortably in them, and they look very beautiful indeed. It seems to me that the "nature of things," and common sense were faithfully consulted when these hives were invented, and I can not but have faith in them. I hope to be able to get all my bees into such hives before next winter.

ANOTHER QUEEN THAT ALWAYS HAS A DAUGHTER WITH HER.

I have already several beautiful queens from an imported mother, and one also that has the habit of having a young queen with her in the same hive. I took 5 from that hive last season. T. C. DAVIS.

Pittsburgh, Pa., March 16, 1880.

FEEDING FLOUR CANDY FOR WINTER.

I am a beginner in bee culture, and have 21 colonies all in good condition. I wintered 20 in the cellar, and one on the summer stand. I think cellar wintering preferable. Last season was a very poor one for honey in this locality, and I have been obliged to feed them all winter. I fed them on candy made of sugar and flour, and it caused them to keep breeding all winter, so they are quite strong to commence the season, which I hope will be a good one.

L. E. WELCH.

Linden, Genesee Co., Mich., March 18, 1880.

GETTING OUT OF "BLASTED HOPES."

The "bugs" are quiet, and seem to be coming out pretty well this year. Since my report in Blasted Hopes, three years ago, I have been going a little slow, and find that going slow is better than haste, in this business. Observation, books, papers, etc., are very necessary, but no one can become a successful bee-keeper, without practical experience, and this cannot be obtained in a day.

AUTOMATIC HIVING—A SUGGESTION.

You that don't clip your queens, and report their

all lighting where your first swarm clustered, just cut that branch off, and hang it on an automatic hiver. This is theory; how would it work in practice? My queens are clipped so I can't try it.

Conklin, N. Y., March 16, 1880.

W. RUGER.

Your idea is worthy of trial, friend R. The question seems to be as to whether a swarm would persist in settling on a limb previously occupied by other swarms, after the limb had been moved to a new locality. The green foliage would wilt, and I believe the bees have rather a fancy for green, growing branches; but perhaps we may manage to get around this objection some way. Glad to hear you have pulled bravely out of Blasted Hopes.

IMPORTANCE OF A GOOD NAME.

After reading Mitchell, I thought you must be a great humbug, but I notice Prof. Cook and T. J. Newman don't so regard you, since they quote you as good authority. Bees did not winter well here. About half in this vicinity died. Many were transferred into the Mitchell hive last spring, and they seem to have lost a much greater per cent than those left in the old hives.

Fillmore, Ind., March 30, 1880.

VAN JOB.

Truly, friend J., it is well to be well spoken of, and I am very much obliged to the friends you mention.

SELLING HONEY.

Will you please, during the coming year, give us some method, not patented, for selling honey at remunerative prices. The home market does very well up to a limited amount, say a ton or so, but honey producers need an honest market were any reasonable amount may be sold for the cash and at fair prices. If bee men would combine, and fix their prices, buyers might be compelled to pay something near the true value of the honey production of the country. No one can afford a nice article of extracted honey for 6c. to 8c. per pound, and yet those are the prices frequently seen quoted as Chicago prices. I believe that bee-keepers are generally better posted on producing honey, than on selling it, which should not be if honey producing is destined to take its place among the remunerative pursuits.

JAS. B. HAWKER.

Arlington Heights, Ills., Feb. 26, 1880.

I can give you no better advice, my friend, than to do as Doolittle, Grimm, Hetherington, Harbison, and other large, honey producers do. I do not quite like the word combination, for it savors too much of "rings," does it not, friend H.?

GIVING BEES ALL THE ADVANTAGES.

I am going to subscribe for all of the bee journals of America this year, and if my bees don't make honey it will be because they don't know how to read. I'll not be to blame for not furnishing them with something good to read. Now spur up, "Eds."

Send along the GLEANINGS, Mr. "Novice," and let us see how Blue Eyes is getting along now days,—heh?

H. A. DAVIS.

Moretz Mills, N. C., Mar. 23, 1880.

I have been urging "Blue Eyes" for some time, to write a small article for GLEANINGS, just enough to tell her many friends their kind words are all appreciated, but she is something like

her mother in being quite averse to appearing in print. In fact, she don't seem to have any ambition that way, at all. The readers of GLEANINGS are such a great crowd that the thought of them overwhelms her, but she writes very pretty little notes to her little friends around home. She is doing a great deal of "growing" now-a-days, and will, in due time, I hope, be ready to use her woman's tongue and pen.

WET CLOTHS TO STOP ROBBING.

I noticed in March No. of GLEANINGS, page 113, a letter from Mrs. L. C. Axtell, in which she recommends the use of wet cloths to prevent robbing. In your remarks, you say it is a new idea to you, and you would like others to test it and report. I have been testing or practicing it the past season, and find it is all that is claimed for it. I got the idea about one year ago in GLEANINGS, March No., 1879, pages 80 and 81 which contain a letter from the same writer.

ISAIAH NEFF.

Lawrence, O., March 20, 1880.

Thanks, friend N., for reminding me of my forgetfulness. I think it must be the consequence of "age, and so many cares." If I *am* getting old, I believe I could beat any boy that reads these pages in running, if he didn't run too far; and I would a great deal rather try it now, than to be held down to this old type-writer all these pleasant, sunshiny days. My friend, be thankful that you can work outdoors all the day long.

FREIGHT AND EXPRESS CHARGES ON GRAPE SUGAR.

It does not pay those having a very few swarms to purchase and pay freight charges on grape sugar. Can you not name a substitute? Graham flour mixed with slightly sweetened water would naturally be suggested; but such a mixture, if allowed to stand for some days, will become sour.

N. H. SUPLEE.

Philadelphia, Pa., Feb. 28, 1880.

I have before spoken of the matter, friend S., and yet we have orders every little while for the sugar by express, when the charges would have more than paid for the same number of pounds of coffee A sugar, at the nearest grocery. I have thought, too, of your suggested substitute, and Mr. House, by my direction, last summer, fed Indian meal stirred up with sweetened water, but it was the souring that deterred us from going further with our experiments. If we could devise a cheap way of feeding our corn to the bees right at home, without the assistance of the grape sugar factories, it would be an achievement indeed.

WET CLOTHS FOR ROBBING.

On page 113, there is an article that tells how to prevent robbing by the use of wet cloths. I will also give my experience with the same. In the spring of 1879, I had 4 swarms that would not even notice a robber bee. The fore part of March was warm, and the strong swarms soon found that they could go through these 4 that would not defend themselves. I had to do something or they would destroy my whole apiary. I was already armed with wet cloths, for I learned it from GLEANINGS, page 81, 1879. Now for results. The water ran down, the bees would fall on their backs, and the water stuck their wings to the alighting board. They would get in all the same. The only way in which I could stop them was

to shut the hives up, put them in the cellar, and leave them there until peach bloom. Those 4 swarms, after being taken out went right to work without any further trouble.

THOMAS CRILLY.

Grafton, Lorain Co., O., Mar. 24, 1880.

I am inclined to think, friend C., that the wet cloths would hardly answer for such a case, and you doubtless chose the wisest plan, in taking such a stock out of the way of tempting others. After honey begins to come in, and the robbers have forgotten all about it, there will generally be no more trouble.

TURNING THE COMBS AROUND IN TRANSFERRING.

You say in A B C about transferring, to put the combs in the frames in whatever way they will fit best. Does it make no difference, if you turn the combs in some other way than that in which they were in the old hive? Prof. Cook, T. G. Newman, and all other writers I have read, say it does. I have one colony to transfer; would it be a good plan to give them an Italian queen (taking away their black one) at the time of transferring? If I should purchase an Italian queen with a pound of bees in July, could I Italianize 4 or 5 colonies from her the same season? As I am an A B C scholar, I hope that you will answer the above questions in Feb. or March GLEANINGS.

J. H. EBY.

Lucas, O., Jan. 28, 1880.

I think you mistake, friend E. Friends Cook and Newman probably said the brood should be kept compactly together, as it was in the old hive, or, in other words, that it should be placed in the same position, meaning relatively; but I am quite sure neither of them intended to say the combs must be kept the same side up, as Mrs. Tupper did several years ago. When the shape of old hives makes it more convenient to turn the combs on the side, or even quite up side down, to put them into the L. frames, of course we always do it; and transferring has been almost an every-day business with us, for years past, during warm weather. I should say "yes," to both your other questions.

TAN BARK AS FUEL FOR SMOKERS. "SMOKE AND PLENTY OF IT."

There has been a great deal said about fuel for smokers; but from my experience I can say that if you want *smoke*, just try tan-bark. Get that that has been in the vats, and dry it well in the oven; drop a few coals of fire into your smoker, and fill up with dry tan-bark, and you are ready for a half day's work. It seems to burn longer, is less liable to go out, and will give a more dense cloud of smoke, quicker than any thing I ever used. It costs nothing, needs no further preparation than to dry it, and keep it dry. Give it a trial.

JOS. M. BROOKS.

Columbus, Ind., April 7, 1880.

BEES BALLING THEIR OWN QUEEN.

On page 26, of Jan. No., you speak of a case of bees balling their own queen. I had a stock which played the same trick once, under somewhat different circumstances. In the early part of June, 1876, I obtained some dollar queens from Andrews in Tenn. Among them was one very large, bright yellow one, which I introduced to a full colony, and built up the same during the season, by spreading brood combs and inserting empty worker combs, so that it became very strong. In due time the queen proved to be impurely mated, and one of her wings was clipped. She also proved to be one of the most prolific

queens I ever owned. Some time in the latter part of August, I opened the hive to perform some operation or other, and found the queen on the bottom board balled. I rescued her, made a three-frame nucleus to which she was introduced, and wintered them successfully in a chaff hive, although there was only 3 frames of them. I kept her during the three succeeding seasons, and her colony has been one of the most profitable ones I have had. Now what could have been the cause of the bees trying to destroy her? She had been the undisputed head of that colony nearly 3 months, and exceedingly prolific, the hive at the time of the trouble being extra full of brood for that season of the year. Nothing could have been the matter with the queen herself, as she proved very valuable for full 3 years afterwards, one year longer than I usually keep queens, unless they are extra prolific. There can be very little or no question but that she was their own queen, for I had previously clipped one wing, and at that time I had no other queen so large and bright, that raised hybrid workers.

There are some cases, friend P., where it is extremely difficult to account for the balling of a queen by her own bees; but, in your case, I would suggest that the hive was so near some other stand that a body of young bees when out playing had, by mistake, gone into that one. Finding a queen that was new to them, they balled her just as they would a strange queen put into their own hive. That young bees do sometimes make mistakes is easily seen, by standing right in front of a colony when a great many young bees are playing in the afternoon; if a hive just like their own is standing very near, they will often go in a body to it, and go in. This is perhaps more of a peculiarity of the Italians, and is one great reason why I have so often cautioned you about standing in front of the hives.

A FLOW OF HONEY THAT DID NOT START BROOD REARING.

On page 31, in answer to Mr. Hill, you say, in substance, that a bountiful flow of honey in the fall always starts queens to breeding. We have had a very peculiar experience about that this fall. Usually our fall crop of honey is the best, continuing usually through nearly all of Sept., and sometimes into Oct. even; but this year the fall harvest did not commence until about the 25th of August, and continued about one week only, being one of the most copious flows of honey I ever saw while it lasted. Previous to this flow of honey the bees had reduced their breeding somewhat, and, during that week of excessive flow, every empty cell of comb in a large majority of hives was filled with honey, entirely depriving the queen of laying room. I was working with my bees all the time when I could, and nearly or quite every hive that I examined ten days or more after the commencement of this flow of honey, I found to be full of honey from top to bottom, but no eggs or unsealed larvæ. Of course, what to do to remedy this state of things was plain; viz., to extract honey from the centre combs of each hive, which I did as fast as possible, but with very little effect on breeding, for the combs were so quickly filled up again with honey that but few eggs were laid. Does not this explain how Mr. Hill's hives might have been full of honey, and but little brood on Sept. 1st? If the theory that old bees cause spring

dwindling is a true one, look out for a large loss of bees this coming spring, in this entire section of country.

O. O. POPPLETON.

Williamstown, Iowa, Jan. 26, 1880.

After queens have stopped laying, it takes a little time to get them started again; and in my greenhouse experiments I think I had fed the colonies bountifully at least a week, before any eggs were deposited. After they get started, the feeding must be kept up, or they will soon stop again. In the case you mention, the flow was only just long enough, to get them fairly ready to begin laying, and, when they were ready, the combs, as you say, were so completely filled that there was no room; but I should have supposed they would have made at least a small brood nest, and that, as the flow slackened, the bees would have moved the honey and made room for them. After a brisk yield of clover honey, I have found the cells in the evening apparently all full; but, in the morning, they would be half of them empty. The reason of this was that they had scattered the honey through the hive, a little in each cell, so that a greater surface might be exposed for evaporation and ripening, and, by morning, the ripened honey had been gathered up, and the contents of two cells put into one. By watching closely, you will see this process is constantly going on, especially where the honey gathered is quite thin, and, as a consequence, you might say on opening a hive in the evening that every cell was filled with honey, whereas every cell was only half full, or still less. I am not quite sure that queens are very often permanently crowded for room, at least not if their owner takes and reads GLEANINGS.

WHAT TO DO WITH EMPTY COMBS.

My bees are nearly all dead. I had over 50 colonies in the fall, but less than 10 now. I don't see any chance for them. They have plenty of honey and pollen. But very few had dysentery; the most go out of existence by depletion. What would you do with the combs? There is honey, pollen, or bee bread in most of them. I bought 26 swarms last summer, to save combs, honey, and hives. I gave each of them from 5 to 15 lb. of honey, with every hive full of comb. They never made any surplus. Does giving them a good start spoil, or distract their energy, or make them lazy and careless, as it does some young people who are set off in style? Let me have your advice. You seem to have dropped that word "Blasted," the best you could do with it. I will never work under it, though I lose every stand of bees I have. Success to GLEANINGS.

West Point, Ia., Mar. 20, '80. J. E. JARRETT.

The idea has been a few times advanced that a new swarm would do better with an empty hive than with a full set of old combs furnished them, but I have so very emphatically disproved it by actual practice that I can but think it a mistake. I should attribute the result spoken of to the extreme badness of the season, last year; but, even with the worst season I ever knew here, it seems the bees should have done better than that. New swarms often fill a hive with honey in two days, but they assuredly could not do this if they had to build the comb.

GOING WITHOUT A BEE JOURNAL, AND FEEDING BROWN SUGAR.

I have a colony that is queenless. I had 12 colonies last fall, now all gone "where the woodbine twineth," except two, and one of them queenless. I have a single copy of GLEANINGS before me, which I borrowed of a friend. If I had seen it last fall I should probably have had more bees now. I fed brown sugar. My bees have dysentery.

Groveland, Ind., March 29, 1880. W. H. RICE.

You might have lost your bees, even with the journal, friend R., but I hardly think you would have fed them brown sugar. I once built up a strong colony exclusively on brown sugar, and fed them enough so they had stores of it nicely capped, and they wintered on it pretty fairly; but, during the cool days of March and April, they had the dysentery badly, and died off so quickly, I hardly knew what became of them. It will do very well for a warm weather diet, but not for winter or early spring. I used the cheapest kind, on purpose to test its value for bees.

PUTTING CANDY INTO FRAMES.

Please say, in next number, how you make your candy stay in the frames. I tried it, and made but poor work with it. If I poured it into frames that had combs in them, it would melt and spoil the comb, and drop out before it got cool enough to stay.

Harrison, O., Mar. 26, 1880. EZRA SHERMAN.

Bless your heart, child, I never meant you to pour your candy into frames containing comb. Use new frames of course. I know I did not say new frames, but I did not think anybody would ever try to pour hot candy into wax honey comb. What could you have been thinking of, friend S.?

"DON'T LET 'EM STARVE."

I have 5 stands of bees, and I think I would have lost half of them, if I had not read your GLEANINGS and A B C book which I borrowed of my neighbor. I had three stands which starved to death last fall before I got your works to read. I have lost none since. It was winter before I commenced to feed. I think they had scarcely any honey in the fall. I fed candy and syrup. It was so cold that I could not feed syrup to any advantage either out or in the cap, so I did my feeding by taking a sash of comb and forcing the syrup into it, and putting it back in its place again. I succeeded well in wintering them. If this way of feeding is any advantage to you, you can use it.

JAMES AKINS.

Cloverdale, Ind., April 3, 1880.

I am very glad, friend A., if the books kept your bees from starving; another friend proposes to let his bees read all the journals, and I have no doubt that, if they find them good to read, they will also find them good to eat; at least as good as the saw dust they often gather with such assiduity in the spring. Joking aside, I hope our friends will give their bees enough to eat, even if they do not have the books to stir them up to the importance of such timely care. Your plan of filling combs is not new, but it may not be generally known to our new readers.

GRAPE SUGAR.

Mr. Root, I feel like writing an article for the department of Humbugs and Swindles in reference to

grape sugar for bees; for I consider it a genuine humbug. About the 1st of Dec. last, I ordered from you, among other things, one tray of bee candy, and 50 lb. of grape sugar, and I have been trying ever since to make my bees eat it, but have failed. I nearly starved two swarms to death trying to make them eat it, and finally had to feed them honey to save them. I tried smearing the candy with honey, but that did no good; they would lick the honey off, and there stop. They positively have not eaten 1/2 ounce of the candy or grape sugar. So you can see why I call it a humbug. If you should need any more grape sugar for your bees, please order from me to the amount of 47 lb., for I can't give it away here. I used 3 lb. according to your directions, thinking, perhaps, if it was freshly made, the bees would eat it; but it made no difference. I think bees have generally wintered well about here.

Mendon, Mich., Apr. 1, '80. A. W. MARING.

I can not tell why your bees do not eat it, friend M., but inasmuch as hundreds of bee-keepers are using the same thing with good satisfaction, I am forced to think you have made some mistake somewhere, or that your bees are a little peculiar. Do you not remember that we had the same complaints in regard to fdn. a few years ago? In fact, even Doolittle himself favored strongly the side that the bees would not touch it, or that it was no real advantage. Grape sugar is now almost as staple an article with bee-keepers as fdn., and I will cheerfully take all you have at just what you paid for it, delivered here, for there has been an advance in price, since you bought. Friend M., why did you not save all this trouble, by first getting one of our 10c. trays by mail, and trying your bees with that? I especially requested you to test it in this way, because I knew how many there always are, who are disappointed in new commodities.

HOW TO KEEP ROACHES, ETC., AWAY FROM THE HIVES. AN ANSWER TO R. C. TAYLOR, IN MARCH NO.

To keep roaches, ants, and worms away, I make a thick whitewash of good, strong lime, and with a whitewash brush give each bottom board (the top of it) a heavy coat, and immediately sprinkle on it salt enough to cover it, and let it dry so. It looks rough when dry, but never mind; bees like salt and it seems to please them to have their floor sanded and so clean. Lime and salt under the strips or bricks on which the bottom boards rest are good. Since using the thick whitewash and salt every spring, I very seldom see a roach about a hive, and not very often ants; but if ants get anywhere about a hive, I use the scraper and fine salt. Now the above as you can see, will not harm the bees in the least, and with me seems to be a specific. Mr. Root's plan is good, but I can't always have the hive crammed with bees.

W. S. VAN METER.

Thayer, Kan., March 15, 1880.

GOOD QUEENS, CROSS BEES, LOTS OF HONEY, SORGHUM SYRUP, ETC.

Now, friend Root, I will tell you my plan of keeping bees. I keep young queens, and raise them from the swarm that makes the most honey. I have all of my honey made on top of the hive in half-stories, and have about 300 combs for this year's use. I have one swarm of the crossiest bees I ever saw, and they made 130 lb. of honey. I have never lost a

swarm by dying, and have never had any spring dwindling. My 2 weak swarms have got brood in 3 combs now. My plan is to keep every hive full of bees; the more the better to winter. They swarmed last summer after being divided. It was the worst year for swarms I ever saw. Sorghum syrup spoils the sale of honey. It is from 30 to 50 c. a gallon. They say it is too much work to raise it so they are stopping.

FAYETTE LEE.

Cokato, Minn., Apr. 4, 1880.

FRIEND ADAMS' OPINION OF LAMP NURSERIES.

That lamp nursery I bought of you proved a failure. I lost 15 cells, the eggs of which were laid by an imported queen. I followed your directions in everything in regard to the nursery and cells. Some of the cells hatched, but queenless colonies would not accept them, proving that that lamp nursery is a nuisance any how. To those same colonies, I gave a queen cell which would hatch the next day, and in a little more than a week they had a laying queen in each hive. Why not introduce queen cells that will hatch soon, instead of young queens that the bees will not accept according to my experience? Now Mr. Root, I can get along a great deal better without that lamp nursery than I can with it, and I want you to take it back again. I have used it only once, and that is enough.

G. H. ADAMS.

Sand Lake, N. Y., Jan. 7, 1880.

In your concluding sentence, friend A., you say you only tried it once. I hardly know how it is, but, with the most common implements, we frequently find people who fail at their first trial, and should they always decide a thing to be a nuisance without going farther, I am afraid progress would be rather slow. It is true, as I have told you both in the price list and A B C, that at times newly hatched virgin queens will almost all be rejected, and again success seems to follow invariably. Did you not note this before you ordered a nursery? The general decision is that lamp nurseries are a great saving, and many of our leading queen rearers use them season after season. Foremost among this number is our friend Hayhurst, unless he has lately discarded it. Will he please tell us his present opinion of the lamp nursery? Although friend A. ordered a nursery made for an odd sized frame, I have taken it back at what he paid for it, and it stands idly now of no use to anybody that I know of. I mention this to caution our friends about ordering things that they may not like.

BEE CANDY; ANOTHER WAY TO MAKE IT.

I want to save you that 2c. per pound, which you are paying the confectioner for making bee-candy. make a warm, saturated solution of sugar syrup, and pour this over your "coffee A" carefully, so as to moisten the entire mass (capillarity will assist somewhat in the process, spread it evenly in your brood frames, and allow it to dry (drain). Thus you do away with all boiling and burning, can incorporate the flour in any proportion, and your candy is always white and dry, being already in the crystalline state. The sugar syrup acts merely as a cement to hold the grains together.

Reistertown, Md., Jan. 5, 1880. F. DELLA TORRE.

Thanks, friend D. I have used substantially the same thing, but I did not get it

hard enough to suit me, without baking it in an oven, and it seemed rather more troublesome than the usual way of making candy.

BEE CULTURE IN NEW ENGLAND.

I received a sample copy of GLEANINGS to-day, and in the "Depository of Blasted Hopes" I saw a letter from a gentleman, Wm. L. Hyde, from Conn. In it, he says he does not know but his poor success is due to his being a resident of New England. I am sure it is not on that account, as I have kept bees here during the last 12 years, and have been successful to a greater or less degree. I have kept bees in the box-hive, in the Langstroth, or one similar to it, and in the Quinby hive. I do not think success is dependent so much upon the style of hive as upon the management.

TRANSFERRING EARLY.

I have transferred quite a number of stocks, and I never yet had any surplus, the same season, from a stock that was transferred from a box-hive during white clover bloom. I think if friend Hyde had transferred his bees just as soon as the sugar maple was in bloom, and his stock was a good one, he would have received some surplus. Transferring at that time gives the bees a chance to put things to rights, and when white clover comes they are ready to take advantage of it. From seven hives, during the last season, I took nearly 300 lb. of box honey, and 100 lb. of extracted honey. Our pasturage here is maple, willow, and fruit blossoms. Basswood is very limited in quantity. White clover is our main dependence for surplus, although buckwheat and golden rod help our bees to hold their own through the fall.

S. H. HICKOK.

Bethel, Fairfield Co., Conn., Jan. 20 '80.

REPORT FROM A SINGLE COLONY OF ITALIANS.

A year ago last April, I came from Pa. to Kansas. I bought a stand of Italians, and got it rather late, and it was weak at that; but, in the fall, it was very strong and gave me about 30 lbs. of surplus. I wintered it in the cellar, and it came out last spring in fine condition. It gave a 1st swarm, May 24th; a 2d, June 3d. They commenced killing drones after the second swarm, and I thought, of course, they were done swarming for the season. But they filled up again, and swarmed on the 19th of August.

From the 1st swarm I took 40 lbs. surplus; from the 2d, 50 lbs.; from the 3d, 15 lbs.; and from the old stand 20 lbs.; making 125 lbs. of splendid honey. I call that a pretty good showing. Don't you?

Severance, Kas., Jan. 5, 1880.

P. E. PLANK.

HOW TO FEED BOX HIVES WITH A 'BUNG-HOLE' IN THE TOP.

A B C came to hand in due time. Many thanks. One thing I greatly regret, - that I did not order the A B C book bound in cloth, for I never expected it to be what it really is for only \$1.00. I would have lost both of my colonies of bees if I had not received it just in time. They were in a state of starvation, and I did not know how to feed them. When I received the book, I made candy as directed therein (my bees are in box hives with a bung-hole in the top), and took a pine block, 4x4x2 inches, bored a 2 inch hole nearly through, run the candy into it, and set it over the bung-hole on the hive, right over the cluster. The bees are licking it up very fast, and are doing well at present.

AUG. TIGGES.

Marathon City, Wis., April 6, 1880.

Notes and Queries.

BEES UNCERTAIN PROPERTY.

MR. SAM. STUMBAUGH, Lyons, Iowa, died Dec. 4, 1879, of pneumonia, while on a visit to his brother in south-western Iowa. The bees which were his pride, and which gave him light and pleasant employment during these last years of failing health, have been sacrificed almost for a song.

M. J. STUMBAUGH.

Lyons, Iowa, March 11, 1880.

[I give the above as a caution to the A B C class, against investing heavily in bees, in commencing. In many localities, if the bees should, by chance, be offered at forced sale, they might not bring half, or perhaps not even one-quarter, of their value; while cattle, horses, sheep, etc., will almost always bring the market price, under any such emergency. The trouble is that, as yet, only a few know the value of bees, and those few are often loth to invest on account of the uncertain nature of the property.]

[What queer ideas some of the A B C class get of things. Listen:]

Can honey be extracted from comb that the bees make? or do you have to use artificial comb for the extractor?

W. P. DAVIS.

Kendall's Tan Yard, N. C., Dec. 22, 1879.

[The extractor, friend D., was invented and in use years before we knew anything about such a thing as artificial comb.]

BLUE THISTLES; AN IMPROVED VARIETY.

Enclosed, I send you a few seeds of blue thistle, a variety which is quite superior to the wild blue thistle. The technical name of the enclosed seed is, *Seminum Cardui Mariæ*; common name, Lady Thistle. I raise this for medical purposes, but the leaves and stalk are a beautiful ornament in the garden. The blossom is of exactly the same color as the wild blue thistle, but a good deal larger. Several branches shoot out from the main stalk, and each one produces flower and seeds.—DR. G. N. HARRY.

Bellevue, O., Jan. 8, 1880.

[I do not think this variety can be called especially hard to eradicate, for after we had one growing nicely in the window, I took it into the greenhouse, and the sun killed it almost at once, while all our other plants thrive nicely. We will try once more, and keep it in the shade.]

"OUR FRIEND OLDROYD'S INKS."

I want to second W. L. King's suggestion concerning that ink. Can't you get up a nice, light, little box, that will hold just 1 doz. bottles? It would be better if the bottles were square. Make the box flat and light. Put in one red, one green, and the balance as desired by the purchaser; or give price of each color, and let the purchaser select. Then paste on the top of the box a printed label, with the words, "Ink. Handle with care." Also put on your address, and leave a large blank for plain address of purchaser, and send by express. Such a box would go almost anywhere for about 25c., would it not?

[Thanks for your suggestion, friend M.; but "W. O." gives such large bottles, that a dozen of them with a box would weigh at least 4 lb., and this would bring the express up to more than the value of the ink. I think the better way will be to take one of the regular $\frac{1}{4}$ gross boxes and have them come by

freight. Such a box might be convenient to pack with other goods, but we should have to charge about 40c. for it.]

QUILLS FOR BRUSHING OFF BEES.

I have often felt surprised never to have seen any mention in the bee journals of goose or turkey quills for use among bees. I have always used them; I use nothing else, as a rule, and regard them as one of the most indispensable implements about the apiary. I have just run out of a ten years' supply, and have sent to Mr. Flansburgh for some. I hope the rest of you have not got ahead of me, and bought all he has.

[I think, friend M., there will be quills enough for us all, if we gather them all up.]

WAX AND PROPOLIS KNIFE.

I am also surprised never to have seen in any bee journal, any mention of what I regard as one of the most indispensable implements in my apiary, and one I have always used; one, too, that is as simple and cheap as it is useful. Take any discarded table knife, with good solid handle (a good solid metal handle is much stronger and better), break or cut the blade off $\frac{2}{3}$, or not more than 3 inches from the handle. Sharpen this square end a little, if you wish. This is what I always use for loosening frames, scraping wax off hives and frame tops, scraping propolis off hives, or anything else, &c., &c. I would not be without it.

[Thanks; but why is not a neat putty knife just the thing? I could get those by the gross or 10 gross, so as to put them in the 5 or 10 cent counter.]

I wish especially to commend one feature of GLEANINGS, and that is its growing spirit and tendency toward mutual helpfulness. It is becoming more and more a medium through which we can help each other, and help its editor, and its editor help us all. The unselfishness of GLEANINGS is especially commendable, and I hope its editor will cultivate this feature of its work. Who knows how much good may yet grow out of this feature of GLEANINGS? "Bear ye one another's burdens, and thus fulfill the law of Christ." How different is this spirit from that of the Growlers. About one of these to each No. is a good thing, however, by way of contrast with the general tenor of communications.

J. W. MURRAY.

Excelsior, Minn., April 8, 1880.

[I certainly shall try to "cultivate out" selfishness from my "own self," friend M., but there is an awful "big job" of it yet. Do not be too hard on the growlers; they do me good, and I think they will do us all good, by growling right out whenever it is demanded.]

I have about 1,500 nice motherwort plants of last summer's sowing, for sale at 30c. for 25, or 90c. per hundred, by mail. Can you use any? or do you know any one that would like to have some? I would advertise, but have too small a supply.

S. RICE.

Bendersville, Penn., Feb. 23, 1880.

CASH FOR HONEY.

I am a beginner in bee-keeping, and like the business very well; but would like it better if there was a regular market for the honey, where I could get cash as I can for pork, wheat, butter, eggs, or cattle.

M. McDONOUGH.

Littleport, Iowa, March 21, 1880.

[I believe, in most localities, friend M., honey will sell when brought into market, and that, too, at fair

prices, if the quality and appearance are fair. When there is a large crop, prices are apt to be low, as with other rural products. I have just purchased several hundred pounds of maple sugar for 8c per lb., our Medina market being so full that dealers would not make any offer at all.

MAPLE SUGAR FOR BEE CANDY.

You cannot very well get a better "bee-candy" than maple sugar, and if you give them a whole tin-pan cake, it won't hurt them any. Our neighbor H. thinks 2 lbs. of maple sugar will make a pound of bees. When bees are worth \$2.00 a lb., this would be pretty good business; eh?]

THE "BIG BUMBLE BEE."

The insect sent by Mr. Henry Knapp, of Oxford, Mich., is a bumble bee. It doubtless entered the hive sometime last season, when the hive was open, intent upon felony. It was caught by the closing of the hive, ingloriously murdered and scalped by the bees, which will brook no such intrusion. I have often seen bumble bees and wasps thus treated. The bees, in their attempt to carry a large insect out of a small hole, pulled out the hair. A. J. COOK.
Lansing, Mich., March 24, 1880.

PAPER SLATES.

Allow me to suggest the use of a piece of "water-proof" paper, such as will allow pencil marks to be erased, to be tacked on each hive, for remarks, during the honey season. It seems to me that it would be a great convenience. Chalk is used here, but it is inconvenient, and your "pin tickets" don't exactly fill the bill. RUFUS MORGAN.

Bernardo, Cal., Mar. 17, 1880.

[I do not know of any water-proof paper that you can write on with a pencil; will somebody send me a sample? It may prove quite an acquisition.]

HOW IS THAT FOR "HIGH"?

I have a swarm of bees in a limb which I took from a tree about 80 ft. high, and which I am going to put in the hive I got of you. J. E. HAND.

Wakeman, Ohio, March 29, 1880.

EGGS FOR BEES.

Have you ever tried feeding the yolk of eggs, boiled dry and mixed with honey, instead of pollen? My bees prefer it to sweet potatoes or any thing else I have tried. JOHN DARR.

Darttown, O., April 13, 1880.

BOX HIVES NOT ALWAYS A SUCCESS.

A friend near by me had over 100 colonies in box hives last fall. They are all dead but 15.

Bell Plain, Wis., April 5, '80. JOHAN JACKEL.

CHAFF HIVES MADE OF LATH.

Good morning, friend Root; I thought I would write and let you know how I get along. You will remember that I told you, in the March No., p. 120, about the 3 colonies in the chaff hives made of lath. I was so well pleased with them that, after writing to you, I made 10 more, and put the bees right into them, as fast as I could. They are doing splendidly. Hurrah for chaff! Sixteen that were in the common hives, not packed, are dead, and still dwindling. I never will try to winter in the common hives again, and I am very sure that there should be 1 or 2 holes through every comb for the bees to pass and repass. I will tell you, in my mind, a damp cellar is a "death dungeon." O. R. MUNSON.

Meredith, N. Y., April 9, 1880.

[I am glad to know your lath chaff-hives please you, friend M., but if you really mean to say that the 16 kept on dwindling *after they were dead*, I believe it is the worst case of dwindling I ever knew. I presume it is some more besides the 16 that died.]

HOW TO MAKE SECOND SWARMS "STAY."

Can you tell what makes second swarms abscond after they have made 3 or 4 lbs. of honey in their new hive? I have had second swarms, with young queens, issue the next day after the first swarm, and, after making 3 or 4 lbs. of honey, go back to the other hives; then, in a day or two, they would swarm again. Now, can you tell what will stop them from going back to the old hives again?

[Yes sir; I think I can. A second swarm always has a virgin queen, and, at about the time you mention, she goes out on her wedding trip; the bees, having no brood or eggs to keep them, sometimes start out after her, and, being unable to find her, go to their old home again. To stop this work, put a frame of unsealed brood in the empty hive when you hive the swarm; in fact, I should always do this, with every swarm, just to make a sure thing of their staying.]

HOW TO GET SURPLUS FROM BOX HIVES.

I have 10 last year's swarms from which I want to get some section honey. How would it work to put a one-story Simplicity hive, filled with section boxes, under these 10 swarms? There are only 2 small holes in the top of each hive, and the bees do not seem to want to work through them.

[Take the whole top off your old hives, friend B., and set the one-story Simplicity over it. You can make the joint bee-tight by tacking pieces on the old hives, and this will be much better than placing them under your hives.]

A SWARM FROM A 17 DAYS OLD SWARM.

I had a swarm of bees which issued June 10, 1879, and June 27, this young swarm sent out a swarm. It was a very large swarm, and I had the hive filled with fdn. starters. Can you tell why I found young bees at the entrance of this swarm, before it swarmed?

[If you gave the bees fdn. to start on, they should have young bees hatching in 21 days; but you state they were out in 17 days; did you not make a mistake of just about 4 days somewhere, friend B.? If you gave them a comb of brood to start with, it would be all very plain; but, as you state it, I presume you did not. A new swarm always takes along some very young bees, and were those not the ones you saw?]

A PROFITABLE SPECULATION.

March 1, 1879, I bought of Mr. Thew, of Saranac, a Simplicity bee hive, and paid him \$3.50. June 10, I put a swarm in this hive, and the 17th day of July it was ready to take off. This hive brought me in \$8.50 worth of honey. R. H. BAILEY.

Ausable Forks, Essex Co., N. Y., Apr. 10, 1880.

TURKEY QUILLS.

I have used turkey quills for 5 years. They are the best thing I can find for brushing bees off the combs. I have one at each hive.

CHEAP FEEDERS.

Take pieces of lath about 8 inches long and gouge them out on one side, forming a little trough. They make good feeders between fruit bloom and white clover. I place them close to the entrance, and fill them from a coffee pot, after sundown.

Euclid, O., April 12, 1880.

F. C. WHITE.

THE NEW SECTION, ETC.

The sections came all right, and they are just splendid. They fold up beautifully without even a break, making one of the most neatly finished corners I ever saw. The bees have a very "big boom" on the peach and forest trees. Every colony came through the winter all right, 20 in number. Those in the Simplicity Chaff Hive are in the best fix. That mirror in the Home Papers this month reflected a very large image when I looked into it.

C. H. DEAN, SR.

Mortonsville, Ky., April 5, 1880.

A NON-SWARMER TRULY.

You say you don't know how to keep bees without swarming. Now I have had one swarm in the hive in my house, for the last 19 years, and it has not swarmed.

D. C. BROWN.

Stamford, Conn., Jan. 22, 1880.

[I presume, friend B., you have kept them from swarming by making them crawl over a space, before reaching their hive, as I have explained in the A B C. I know this will do it, but it is a loss of time to the bees, and consequently, in the end, a loss of honey to their owner.]

A HIVE OF EMPTY COMBS; WHAT TO DO WITH IT.

I have a hive of bees that died of starvation,—or rather a hive now without bees, and also without brood or honey. I would like to ask if it would do to put a pound of bees with a queen into it? I should expect, of course, to feed them until flowers open.

Waldron, Ills., April 2, 1880.

F. L. MERRICK.

[It will do excellently; and a pound of bees put on the combs this month or next should make a good colony by fall, at the least calculation.]

PAINTING HIVES INSIDE.

I paint all my hives *heavily* inside, and think it all right. I think this not the cause of brother Flansburgh's bees dying.

A. W. GILLIS.

Kinsman, Ohio, Apr. 2, 1880.

SPRING FEEDING.

The "Barnes" saw, helps out wonderfully in making chaff hives. Its just fun; when I get tired I quit awhile; work is only hard when you work hard at it. Yesterday, my bees (14 colonies) ate $\frac{1}{2}$ gal. of syrup, and about a gal. of rye meal. Can they get too much? I feed them every day. Some tell me I never will get my money back in this "beeness," but I will see. I have lost nothing yet.

Salem Centre, Ind., Mar. 30, '80. W. E. KIMSEY.

ROBBINS' TACK PLYERS.

The tack plyers engraved in the March No. of GLEANINGS are from me. I consider them almost indispensable where wooden clasps are used in transferring.

R. B. ROBBINS.

Bloomdale, O., March 18, 1880.

BUILDING ON THE ROCK.

I am always fearing you will die some day, and then, what will become of GLEANINGS, that factory, &c.? Tell Ernest he must get ready in earnest to take your place. I am not hurrying you off, recollect.

Kossuth, Miss., Jan. 22, '80.

N. C. STEEL.

[To be sure I shall die, friend S., and if the GLEANINGS and factory depend on me alone, they will die with me; but if, as I trust, they are built upon the spirit that our Savior taught, he will raise up some one else to care for them, or these boys and girls with his help will carry them on themselves. I am

glad to assure you that Ernest will trust in God rather than in his own wisdom, whenever the time shall come for him to take his father's place, if it is God's will that such a time shall come. "Heaven and earth shall pass away, but my words shall not pass away." Many thanks, Friend S., for your kind solicitude.]

WHY THEY DIED.

I have 2 swarms that had plenty of ventilation through holes covered with wire cloth, and they are all right. The rest all have the dysentery. So I think it is for want of ventilation. I have no chaff cushions, but have boards in place of cushions; 12 swarms are dead. They have plenty of good stores.

JOHAN JACKEL.

Bell Plain, Wis., March 15, 1880.

DRAGON FLIES.

The dragon flies have come down on my bees by the million, and are destroying them so fast that I am afraid the bees will not be able to swarm any till the flies leave, which will not be till May or June.

M. LEWIS.

New Smyrna, Fla., March 25, 1880.

QUEENS TO CALIFORNIA.

The queens arrived at Santa Paula on the evening of the 24th, at 8 o'clock. I had arrangements with Mr. Barber to bring them to the ranch (8 miles), the next morning after they arrived. In the box containing the darkest queen, I found the bees nearly all dead and very badly smeared. The other box was in good condition but destitute of stores. Both queens are all right now, and safely introduced to new stocks of all young bees and hatching brood. The charges on the queens were \$1.50.

We had our first natural swarm yesterday. We are now making artificial swarms. The weather is splendid, and the whole country is covered with bloom. Bees are storing in supers, and doing finely.

Santa Paula, Cal., March 27, 1880.

E. GALLUP.

[The bees were 9 days on the route, which was a quick and cheap journey. The cages were of the kind we have mentioned for long distances,—two little combs of honey in a small box. The little frames should be hung in a large hive, for a few minutes, or until the bees have licked up all loose honey and then there will be no dripping. Where many bees are put in, as we usually do, a large amount of food is needed, for they sometimes gorge themselves, in consequence of the shaking and jarring incident to the journey.]

LOOK SHARP.

I received the cheirograph with other goods. It contained pad, a bit of sponge, and a square piece of pine wood. What constitutes a cheirograph complete? I inferred that you furnished ink. Please send along the right kind of ink, and if you charge extra for it I will send the pay. What is the square piece of pine wood for? I can do no good with it with common ink.

C. S. DAVIDSON.

Flemington, W. Va., March 8, 1880.

[Friend D., I do not believe you are a Yankee or you would have split open that block of wood before asking what it is for, and found your ink. You see we wanted to put up the ink so it could not possibly frighten the postmasters, and it seems we succeeded so well, you could not imagine that that innocent looking block of wood had even a remote connection with your missing ink.]

REARING BROOD IN THE WINTER.

Pity we cannot tell in the fall, what the winter is going to be like. We united our 72 colonies in the fall to 49, to make all strong. Our strongest stocks reared brood all winter, consumed an awful amount of stores, and are no better now than weaker ones that reared little brood. I do not think much of untimely brood rearing. My experience has always taught me that bees would better remain quiet until the willows bloom.

ILA MICHENER.

Low Banks, Ont., Can., March 4, 1880.

PAPER FOR HIVES.

Car wheels, water pails, and flour barrels are made of paper; why not hives? Paper is a non conductor of heat, and I should think would be good material for hives.

W. A. HARRIS.

Salem, W. Va., March 18, 1880.

[Paper has been many times suggested, but at present it is decidedly too expensive. We formerly used straw board (the cheapest kind of pasteboard) for making our mailing boxes for fdn., but we soon found that while basswood does not cost $\frac{1}{4}$ as much, it is a great deal stronger for such purposes.]

You are sending GLEANINGS to my wife instead of to me, but I will not "growl" at that, for she permits me to read it, and I, in return, allow her to aid me in the apiary.

P. J. ENGLAND.

Fancy Prairie, Ill., March 16, 1880.

GRAY'S NEW SECTION.

I am now setting up your new "one-piece" section box, and am much pleased with them. They are the "coming section," and will soon supersede all others.

J. W. NEWLOVE.

Columbus, O., March 17, 1880.

CANDY FOR WINTERING.

I have had young bees flying 10 days or more. Plenty of candy, as per A B C, did it. I packed them for winter Sept. 22d and 23d, before leaving home, giving candy at that time. They were left on summer stand.

E. S. ARWINE.

Bean Blossom, Ind., March 10, 1880.

I believe the best way to work honey bees for profit and pleasure is by the rules of "Square Root," of Medina, Ohio.

WM. FOLTS.

Salamanca, N. Y., Apr. 23, 1880.

[Whew! I guess I would better look out, if that is what you are going to decide.]

Box honey is worth 25c. per lb. here. The bees here are all black, and in boxes and barrels.

A. J. BRUMBAUGH.

Cottage Grove, Lane Co., Oregon, Feb. 20, 1880.

STOPPING JOURNALS WHEN THE TIME IS EXPIRED.

When the time of my subscription to GLEANINGS expired, you said I need not write anything about it, as you would stop my journal any way, until I renewed the subscription. I did not trouble you with any letter then, though I felt very much like sending my thanks, and complimenting you on the good sense manifested in stopping your paper when the time paid for expired. That is the way I wish every publisher to do by me. Now I send 50c. for 6 months.

Rootstown, O., Mar. 1, '80.

C. M. WHITNEY.

[Thanks, friend W. When we stop the journal, we do not by any means wish it to be understood that we are afraid to trust our friends, but because we are not sure it is wanted longer. This I believe makes the least trouble all around, and I do not

wish to make anybody unnecessary trouble when it can be avoided.]

TIMOTHY CHAFF FOR WINTERING.

The burlap you have been selling for 10c. isn't firm enough to hold such chaff as I use; viz., timothy. And, by the way, I have discarded all other kinds of chaff for that kind, as I find it superior to them all.

O. O. POPPLETON.

Williamstown, Ia., Apr. 5, 1880.

[We have just made arrangements to furnish an excellent, strong article of burlap, 40 inches wide, for 12c. per yard.]

NARROW TOP-BARS FOR SECTIONS, AND NARROW SEPARATORS.

Have you ever had any trial of section boxes with the openings wider than $\frac{1}{4}$ inch for the bees to enter? If so, with what result? How would separators about $\frac{1}{2}$ the width of the box work, where fdn. is used for starters?

D. O. SWEET.

Rockport, Cuy. Co., O., Dec. 23, '79.

[I have used top bars to sections, several seasons, only $\frac{1}{4}$ wide. They answered just as well as any, only that the bees would often bulge the honey up between the top bars, and the honey was poorly protected when being handled. If you make the separators any narrower than we do, the bees will bulge the honey past them, and you will be as badly off as if you had used none.]

Can you name some one in Cal. or Oregon who has Italian queens for sale? Won't you give some of your Pacific-coast correspondents a hint that they might sell some things by advertising?

SMARTING HONEY.

Can you tell what it is that gives our honey a pungent taste? Some of it is so smartly that we cannot eat it. When first taken into the mouth it is pleasant enough, but soon begins to cause smarting. We first thought it was mustard, as it grows quite plentifully in our yard; but as it is quite highly recommended for honey, I have thought it could not be. In some cases, it has proved quite serious in producing vomiting. The taste and manner of acting conforms more to the effect produced by our wild iris (probably *Iris tenax*). This grows quite abundantly in our pastures. I have never noticed how much the bees visit it.

RAPE IN OREGON.

I think, with a little care, I can have rape in bloom almost the whole of the year, it being largely grown here for green fodder and pasture.

Forest Grove, Or., Dec. 10, '79. S. T. WALKER.

HOW AN A B C SCHOLAR SUCCEEDS WITH FDN.

May 27th, about sundown, I put a sheet of fdn. into an empty frame, and set it in the middle of one of my strongest Italian colonies, in a Langstroth hive. Just imagine my surprise, when I opened the hive next morning before sunrise, to find this sheet actually covered with bees, queen included, and, on closer examination, I found honey, pollen, and eggs.

HONEY PLANTS OF VIRGINIA.

The principal honey producers of this valley are the yellow locusts blooming in May, white clover in June, July, and Aug., blue thistle from June to frost, and wire weed in Oct. I have on my place about 500 large locust trees. The bloom lasts about ten days, and is always covered with bees.

J. LUTHER BOWERS.

Berryville, Va., Dec. 20, 1879.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, MAY 1, 1880.

For whosoever will save his life shall lose it: and whosoever will lose his life for my sake shall find it.
--MATT., xvi. 25.

HONEY PAILS.

FRIEND Dadant has sent us a nest of honey pails that are quite ingenious in several points, and I think are destined to be the coming package for extracted honey. A nest of 5 pails, holding from $1\frac{1}{4}$ lbs. to 25 lbs. each, and costing from 4 to 32c. each, is sent for 80c.

PLEASE, my friends, do not ever again, any of you, take the trouble to get an affidavit, or certificate, to convince me that your statements are true. When I doubt your word I will tell you so frankly. When I ask for further particulars, it is not because I do not believe you, but that I may see where the mistakes have crept in. It hurts me, to have you get an idea that I am doubting you.

M. C. KERNS, of Pomeroy, Meigs Co., Ohio, also writes that he can furnish small round work-baskets for ladies, which can be sold for five and ten cents. He sent a sample of the 10 c. basket, 7 in. across the top, and it was so neat that all the clerks wanted it to put on their desks for postals and letters. These baskets are made by three ladies—a mother and two daughters, to whom it would be a kindness also, to forward our orders. See prices in Counter department.

FRIEND Doolittle sends us some of his golden-cluster raspberry plants by mail, remarking, "They not only yield honey bountifully, but are beautiful to look at when nearly ripe." Now, friend D., at our house, we think they look better when quite ripe, and I hardly think a "look" would satisfy. The roots came in fine condition, and are already planted in the garden down by the pond, right by the side of some "sweet-homes" received of friend Palmer.

SOME most beautiful specimens of sea mosses were received a few days ago, from a friend in California, who said his mother sent them. I took them down to show to "Sue" and the children, and they took "forcible possession" of them at once, and by some means I have lost my friend's name, and am now unable even to say who it is to whom we tender our thanks. Tell that kind mother, my friend, we feel thankful and grateful, even if we are careless.

THE Simpson honey plant, of which so much has been said of late, was not first discovered by friend Simpson, it appears, for we find the following notice of it, on page 225, GLEANINGS, 1876: "A plant known as 'Carpenter's Square' was known by several to be a very good honey plant." This was at a convention, at Lebanon, O. For all this, I still think friend Simpson should have the credit for first persistently bringing it before the public, and also for first demonstrating what it would do under cultivation.

A GREAT many mistakes have occurred from changing initials. A man writes, and afterward his son, wife, partner, or somebody else writes, in regard to the same matter, signing their name or initials. If you refer to a former letter, please say so, and tell us the full name of the one who sent it. We think our clerks will prove smart and bright and well drilled, if you will only give them half a chance. We make it a science and one of the fine arts here, to pick out the meaning and straighten out the blunders of "careless humanity."

BLUE THISTLE.

OUR friend Clark Simpson, Flushing, Mich., writes a lengthy article on the blue thistle, saying it is an excellent honey plant, and that it produces an excellent quality of honey the whole season, but that when it once gets on a farm there is no remedy but one, and that is to sell the farm and move away. He has never seen any in Michigan, but his experience with it was in the town of Hoosick, Rensselaer Co., N. Y. For the present, we shall withdraw it from our price lists, and hope no one will order plants or seeds.

INK.

FRIEND Henderson intimates, in the *Bee-Keepers' Exchange*, that "W. O.'s" ink may be nothing but aniline dissolved in rain water. From what experience we have had with aniline dissolved in water, I can hardly think this is so, yet, granting it were, how many of us can put it up in those large bottles which "W. O." uses, and sell them for \$1.00 per gross, or about 2 $\frac{1}{4}$ c. each? Since the recent advances on glass, the bottles and corks cost about 2c., to say nothing of the labels. If you can buy the materials and make the ink for $\frac{3}{4}$ c. per bottle you will have to work pretty low. If you want a pint, quart, or gallon, it may be your best way to make it.

It is to be borne in mind that only colored inks can be made from aniline. Such a thing as black aniline is, as yet, not to be had. The great bulk of the ink that friend O. sells is black. Since the notice of his ink in GLEANINGS, we have purchased of him for our trade alone, over 2,000 bottles.

INK FOR THE CHEIROGRAPH.

Although aniline and water will make a cheap ink that will do very well for many purposes, it certainly will not make a successful ink for the cheirograph, as many have proven. The first trouble is that almost none of the aniline to be had at the drug stores is pure enough. We were obliged to send to New York City, for ours, and, if I am correct, it has to be made expressly for the purpose. Although the common aniline of the drug stores retails for \$1.00 per oz., by buying in quantities, we can sell you the best at 75c., and pay postage besides; or for convenience, we have it put up in 10c. packages to be sent by mail. Make the ink according to direction on page 168 of last month's journal. This ink, by being diluted with water, will answer well for any purpose, but you will see that it is considerable more than aniline and rain water. After you have made some a few times, unless you want a considerable quantity, you will doubtless feel like saying, "Every man to his own business." You must not inhale the dust from the aniline; it is a rank poison. You can scour the stains from your fingers with alcohol and pumice-stone.

Our Homes.

But I say unto you, That ye resist not evil: but whosoever shall smite thee on thy right cheek, turn to him the other also.

And if any man will sue thee at the law, and take away thy coat, let him have thy cloak also.

And whosoever shall compel thee to go a mile, go with him twain.—MATT. v. 39—41.

I WONDER if the people in your neighborhood, Christian people too, insist that Jesus did not mean us to take the above just as it reads. Do they say such things are well enough to talk about, but that they will never answer to live by? Do they tell you that one must use common sense, and that often in life we must fight in self-defense? And is it always those who are in some quarrel with a brother or neighbor, who most stoutly defend an opposite line of teaching? I told you last month there are extremes in almost all these things, but I wish to show you this month, that, in many things, mankind nearly all err in one direction, and so seldom in the opposite, that we almost never need to consider that side. I think the little text above is one of them. Do any of you say the world is well enough as it is? A year ago my wife wanted a newspaper, as well as so many journals and agricultural papers, and so we sent for one published in a neighboring city. I seldom get time to look at it at all, but a few evenings ago I took a look at one of them.

"Why!" said I, "is this paper always filled with such strings of murders and crime—father quarreling with son, brother with brother, families murdering each other, etc., etc.?"

"It is always just so, and I have been wishing for some time to have it stopped just on that account."

"But these occurrences seem to be all true, for many of them are taking place right in our neighboring counties and towns."

"I suppose they are true; but is it necessary that one should know all about such things? and is it well to have children conversant with so much crime?"

Over and over again, my friends, have I thought of the pages of that paper, of the startling records of crime heralded forth to the world in large black letters, as if it was a solemn warning—would to God these editors all felt the need of making it a solemn warning to the youth of our land!—and of proclaiming to them,—

As I live, saith the Lord God, I have no pleasure in the death of the wicked; but that the wicked turn from his way and live: turn ye, turn ye from your evil ways; for why will ye die?

Is it not "dying?" and is it not "death" in its most terrible sense? I will tell you of one little sketch that I read.

A boy was set to digging potatoes while his father was away from home. He finished them honestly and well, I have good reason to think, and put them in the cellar. After finishing his task, he went to see a girl of about his own age, and, as is often the case, did not return at a very seasonable or proper hour. The father, on his return, went and looked at the potatoes, and found that the boy had put them away without letting them

dry a while first, as is usually done. Being tired and fretful, he became angry at what he was pleased to term his son's want of care. As the boy did not come home, he was probably more angry, and retired, locking the door. When the son returned, the father got up to let him in, and at once commenced scolding about the potatoes. Neither seemed to be in a mood for discussing such a matter, and the boy talked back to his father. I believe the boy's age was about 18. According to his own statement, his father struck him and knocked him down. He says he could have overlooked this, and could have kept from striking back, but that his father would not stop there, but began pounding him after he was down. I presume the father conquered and subdued the son, as many would term it. He did subdue, but he did it while in a passion, and I tell you, my friends, there is a gulf almost as wide as eternity between the subjection obtained by one who "ruleth his own spirit," and one who subdues by brute force, when he is under the influence of passion. The boy rose, and, finding a long screw-driver near, struck his father over the head with it. The poor, blind, crazy father went to work and subdued the boy again, with that same brute force. Being the heavier and stronger of the two, he had him down again, and gave him another pounding. Ye fathers who are reading this, does it not make your blood chill and curdle as you think of thus beating and conquering your own flesh and blood?—nay, of the very spirit and ungovernable temper that exist in your hearts? Is there one among you who dares say that this father was doing right? Hold a minute. The boy got up, apparently with his will broken. He knew where there was a hatchet in another room, and he walked out slowly, so as not to excite suspicion. After getting it, he came back with it concealed by his side, until he stood before the father, who was sitting on the edge of his bed. The boy was so maddened by his repeated poundings, that he was crazy with passion; so crazy, that he had deliberately planned the murder. With both hands, he struck his father with the hatchet, and then struck him again and again, until he lay a lifeless corpse at his feet. I tell you this, because I wish you, both fathers and sons, who read this, to be warned in time. The boy had conquered, it is true. He had come out best in the struggle, and had done by strategy what he could not have done by brute force alone. Had he come out best? Perhaps, for one brief second, Satan gave him a trifling exultation, in that he had beaten his enemy. But, *what now? what now?*

He looked at the lifeless form of his parent, and finally, as there was nothing else to do, lifted the limp body on the bed. Can any of you conceive the awful, awful, sickening feeling that must have come over him then? What would he have given to be back just a few seconds,—to be even where he was when that poor father held him down and pounded him? Do you not think he would rather have been pounded all night long, to insensibility, or to death even, than to have stood where he stood then?

The Bible tells us it is impossible for human thought to conceive the blessings that are in store for those who obey. Is it not likely it is also beyond human thought to measure the amount of misery that can be heaped up into a single moment? Would you, my friend, take this poor boy's place for all that earth, ay, heaven too, so far as we know, could offer? What do you think now of turning the other cheek also, as Christ enjoined? or of giving the cloak also?

What could a poor mortal do, under such circumstances? Perhaps he had never been taught to turn to the God that made him; and, if he had, under circumstances like these, even a Christian (if it is possible for a Christian ever to get into such a place) might almost be excused for fearing to look toward God at all, and turning rather toward Satan who had led him into such a situation. This is Satan's work, all of it, and I have often-times thought that this is exactly the end he is constantly aiming at. Our boy, I presume, stood still and thought a minute or two, but there was very little time for thinking. He must quickly do one of two things,—confess his crime and give himself up for punishment, or flee for his life, and wander, with the brand of Cain upon him, over the whole face of the earth. He chose to follow the Devil still; and when he had once made up his mind, Satan seemed ready to prompt him to more crime. He knew his father had some money, and he first tried to unlock his trunk with the proper keys; but failing in this, he broke the lock, took the money (a little over \$100) and his father's watch, and started off. He first went to Boston, and roamed about aimlessly, having no heart or taste for anything. Next he went to New York, if I remember correctly; then back to Boston again, and finally, when nothing else would heal the awful, guilty conscience within, Satan led him to try drink. While under its influence his money was all taken by a comrade he had found, and, sick at heart unto death, regardless of consequences, he wandered back to his old home and gave himself up, saying he was tired of trying to elude justice any longer. May God help that poor unfortunate even now, to-day! As I go over it, how my heart yearns to say a word of comfort to him! Not that I would soften his offense, but that I would try to show him that a loving Savior weeps even for such as he.

My friends, humanity is now before us. The very boys that may do these things in the years to come are near you and me. Can we do anything to prevent such crime and misery? and have we been doing, and are we doing, all that lies in our power?

The question often comes up, How much shall one bear, without resenting? In other words, when does it become necessary to fight in self-defense? If I am correct, circumstances and conditions have much to do with it. Had the case I have mentioned not terminated fatally, some might have said the boy was acting in self-defense. Was he acting in self-defense at all? His father's purpose was only to teach him obedience, and to subdue him, if I understand the matter correctly. Had he not talked back, he

would not have been attacked at all, in all probability; but if he had, I think all will agree with me in saying, it were far better for a boy to take a whipping, nay, a flogging, from his father, than to strike back. I am not taking a father's part because I am now a father of a grown-up boy, but because I distinctly remember being whipped by my father, with a horse-whip too, after I was a pretty large boy. I thought it was unjust, and I thought of resisting; but, O boys, you can not tell how I thank God now, that I decided then to take it, without saying even a word in remonstrance. Shall a boy take all these things from a parent who is passionate and unreasonable? By no means; but there is a most powerful weapon that is in the hands of every boy in our land, rich or poor, high or low. To illustrate: Suppose that in either of the cases I have mentioned, the boy had appealed to his father something like this:

"Please, father, listen to me a moment. I am very sorry for my carelessness, and I will do my best to obey you in everything you ask. I do not think I should be punished, inasmuch as I am almost a man, in size at least. It will hurt you, and myself too, far more than the pain you inflict. At least, father, stay your hand for just one hour, and if, at the end of that time, you still think I should be punished, I will submit as best I can, and without a word. In any case, let us be friends afterward, as we have been heretofore."

How many fathers have we that could whip a boy after such a plea as that? Perhaps few boys would frame it in the exact words I have chosen, but almost any one could, in his own words, broken with sobs perhaps, give his father to understand how he felt about it. Hundreds of parents could stand blows, where one could stand an appeal like that. Would it be cowardly or unmanly for a child to speak thus? I should feel like calling such a boy a hero, even though he had, at the time, grievous faults and failings. This is what I understand by turning the other cheek also, and I do understand also that Christ meant us to find in that little, simple act, a power that would subdue not only nations, but even savages, and, for aught I know, wild beasts also. It is only putting in practice the little text, "A soft answer turneth away wrath." If I was sure I could so rule my own spirit as not to get off the track at anything that might turn up, I would ask to have the ugliest man that could be found, to come and live near me as my neighbor, that I might demonstrate to the world the power of Christ's words. If I failed, it would be on account of my own "ugliness" (would it not be funny if he should turn out to be the better man of the two?) not because the man was too bad, or the text would not work.

In our own county, two neighbors got to quarreling about the pasture of a horse. One called the other a liar, and because of some foolish notion, the remnant of a sort of barbarism that is still current with a certain class of people, he thought he must in honor knock him down, to redeem the insult. He did knock him down, with the but of his

whip, and his neighbor (a friend, too, he was in reality) died from the effects of the blow. Did God place us here on this earth to strike each other blows like that? How our very nature recoils at the thought! Did you ever see a full-grown man strike another? Have you not felt the voice of conscience remonstrating, and saying in strong terms that we were never made for that? What do you think of it, boys? Are you going to neglect the "throttle-valve" that God has given you for governing humanity, and attempt to govern by brute force?

For some reason, God has seen fit to place in our own hands the matter of freeing ourselves from this taint of the savage nature we have inherited, and of raising ourselves up to the plane of an intelligence which, our reason tells us, is a part of God himself. It is in this sense that we are created in his own image. The power of intellect to subdue brute force is like that of the engineer of a locomotive over a heavily laden train of cars; and the man who knocks another down for calling him a liar is trying to remedy the matter about as intelligently as the engineer would do, who, when he wished to start the train, should neglect his throttle-valve, and get down in front of the locomotive and attempt to start it by grasping hold of the cow-catcher.

"But I say unto you, That ye resist not evil." Shall we never make any resistance? Shall we let a man call us a liar, and go on and talk the worst a man can possibly talk, and pay no attention to it? I think I would let him go on, so far as I might be concerned personally. If his talk was such as to be an outrage on society, I would remind him, or get some one else to do it, that, for the sake of the good of community at large, he must be restrained. Treat him as you would a mad-dog, in some respects. That he might not heap his spite all upon you, get others of his friends and neighbors to go with you, and talk to him; if this does no good, go, all of you together, and make complaint, and have him dealt with by the proper authorities. If the rest of the community all around you think it not best to have the matter taken up, I should think you would better, as a general rule, bear it in silence.

Shall we bear blows in silence? I think it depends much on who gives them. If they come from one who is generally an honest or even tolerated member of the community in which he lives, I would advise you to bear them; or, at least, I would be careful that I took up only the defensive. Ward off the blow, but don't strike back. If the wind blew your barn-door against you and knocked you over, you would only fasten it better next time. What would you think of a man who should kick and pound it, and tear it off its hinges? If it should swing so as to endanger your foot or leg, and you have a hammer in your hand, and find the readiest means to get your foot out of danger is to knock a board or two off, do so, but do not knock any more boards off. If the one who attacks you is ordinarily a fair sort of a man, remember his average character, and treat him accordingly.

But the midnight assassin, the horse-thief,

and such characters,—what shall we do with them? If that barn-door we talked about had hurt a great many people, and it was impossible to fasten it so it would not get away, I would take it off the hinges or nail it up; in fact, I would not have any barn-door. The law permits you to shoot the man who breaks into your house in the night, or who tries to steal your horse. The law is doing its best to protect us in a fair and impartial way. If you are using the law, do it in a quiet, unimpassioned way. Go to work with the good of community in your thoughts, rather than because of any personal feelings. A near relative of mine, and a most estimable young man, had his horse stolen, and very nearly surprised the thief in the act. He followed after him, and got so eager in the chase that he rode in a cold storm until he took a cold that cost him his life. Do you not see how much we need moderation, even in these extreme cases? I would have you cultivate courage and bravery, and I wish every one of you to be able to knock a man down or shoot him, whenever that is the best thing to do; but, O my boys! I wish to see you able to reach up higher still, and take hold of that strong arm that will help you to bear being knocked down, ay, or being shot too, whenever God or your country demands it, and to do either one unflinchingly.

At present, perhaps the best thing we can do with the one who breaks into our house while we are asleep is to shoot him down that he may do so no more, and that he may be a warning to others. I say *perhaps*, for since my work of the past few years with the criminals in our jails, I have had glimpses of a better way, and of a spirit that is going to rise among our people, a thousand times more potent than the power of the law. If I recollect aright, Lord Shaftesbury made the remark that, should the missionary force of the city of London be withdrawn, the police force would have to be increased tenfold. In other words, one missionary, in a dollar-and-cents view even, is worth as much as ten policemen. We need both missionaries and policemen, at present at least; but let us pray the time may hasten when more of the former and fewer of the latter may suffice; and, to that end, may we all be doing, at our own homes, what we can.

Before closing, I wish to say a few words in regard to answers to prayer. You will remember that, in the Feb. No., "W. O." was granted an extension until the 15th of April. As the time drew near when the money was to be paid, I felt no little anxiety about it; not that I feared God would not remember us, but that my friend might again get disheartened and distrustful. I did not hear much from him, but, although he was having a great many orders for ink, I knew that at the very small profits he made he could not well raise \$700.00 in so short a time. He wrote me the property was well worth \$1600.00, but that, if the mortgage was foreclosed, it was likely there would be nothing left. It would leave him a bankrupt, and, worst of all, absolutely helpless to pay a kind friend, a Christian lady, who had entrusted her money to his care, just be-

cause she considered him a good and conscientious Christian. He was willing to lose all he had in this world, if God would only help him to an honorable way out of his embarrassment. Would God do it? Or must he lose it all in a way which seemed to render it impossible that he could ever pay this debt? As the time drew near, the matter seemed to lie on my mind, as if it was my own debt; and when, one day, he said in a little note at the bottom of a business letter, he began to fear the property would have to go, I longed to get away by myself where I could tell my Savior all about it, and plead with him for my friend. I have my supper at 5 o'clock; the engine stops at six, when the hands leave, and the building is generally still until some of them come back after supper. The contrast, at this hour, from the bustle and din of business during the day, seems to invite me to go down on my knees and tell my Savior all my wants and needs, or rather all *our* wants and needs; for, at these seasons, I often pray for the different hands and clerks, calling them by name. I wrote W. O., to keep up his faith and to doubt not, and it then seemed just as if it could be fixed all right, without any trouble, if I could only have this hour to myself that evening. As I prayed for him, and that he might not feel that he had trusted the Lord in vain, I remembered vividly the expression of friend Wright, in last month's journal, to the effect that we had put the theory of prayer faithfully to the test, and found it to be false, and that therefore we would better, to use a slang phrase, "dry up." I plead this, before God, and asked that *for his name's sake* the money might be sent to W. O., that all men might know that there is a God above, and one who notes the fall of a sparrow to the ground, even in this nineteenth century. I arose happy. It seemed, as it has so many times before, that a promise had been given. When I got the few lines from W. O. that I gave you last month, I was not surprised, for I expected it. By the way, I sat up until 12 o'clock to get that last item in *Our Homes*, before the paper went to press at daylight next morning. I did not know how relief came; but I knew God had sent it. The following little item tells how God saw fit to let us know he was all the time watching:

Now, my dear friend, I have good news to tell you, through the mercy and goodness of our Heavenly Father. My brother-in-law, in Penn., sent me a draft on N. Y. last week, for \$800.00, to meet that claim which has caused many months of mental agony. I went as soon as possible to have the matter adjusted. I told Mr. S. that I was thankful for the indulgence he had extended, but was much more thankful to the good Being who had put it into his heart to give me further time. WM. OLDROYD.

Columbus, O., March 30, 1880.

I confess, my friends, there is something wonderful in all this, and more than once I have felt almost frightened when these drafts for just the sum of money I had asked for were so suddenly placed before me. I have felt that I was standing on holy ground, and somewhat as when, during a thunder

storm, some huge clap of thunder rends both earth and heavens. There lies a little bit of printed paper; simple and inanimate; yet with uncovered head I stand and view it almost with fear and trembling, when I think that those simple but earnest prayers have moved the great Being who created the universe to send it with his own hand. In fact, the words "pay to the bearer" five hundred or eight hundred dollars, as the case may be, seems to be, at such times, and to the one who has prayed for it, *in God's own handwriting*, with his great signature at the end.

I know how many will object to such faith, but wait a moment, and perhaps I can make it plainer to you. My closing words last month were, "His messenger truly." Then God must have messengers to do this work? Most assuredly, and these messengers are not always those who are members of churches. They are those whose hearts are going out to their fellow men, and who are susceptible to these heavenly impulses. To illustrate: I told you last month that I had decided to give friend Parker \$5.00 more, for his machine for putting in starters. I distinctly remember thinking one day, while I sat at my type-writer, that the starter machine was working so nicely I could afford to give friend P. a little more. It is true he had accepted my offer, and the invention was fairly mine, but should that hinder me from paying him more at any time when it should seem to be worth more? I thought not, and yielded to the good impulse by telling the book-keeper to send him \$5.00 more for it. I was in the attitude, for that moment at least, to be one of "God's messengers." I was ready to be *used*. Read the sequel:

Mr. R. ot.:—Your card of the 17th received. I can only express my thanks by asking God to bless you, as *he* knows how opportune this kindness of yours is. (I will say right here that Mr. Parker is absent for a few days, but, as I am doing his writing for him in order to do all I can to help him in business, I take the liberty to answer you at once, and the more readily because, while reading *Home Papers*, I had determined to write you a letter.) First, let me say, your kind act in allowing another \$5.00 for the comb fdn. fastener is in answer to prayer. When you offered the first \$5.00, we felt that it was well worth it, indeed that it was not enough; but we had been owing you some time, and felt as though we wanted to pay, so husband said yes, and I wrote accepting, but I offered a prayer with it, and I *knew* the Lord would take care of it. I felt that if it was really worth more, as you was a child of God, he would lead you to do right; and I feel you have not only done that, but also been very liberal about it.

Defiance, O., April 8, 1880. MRS. W. D. PARKER.

A child of God! What a solemn thought! O how far, how very far, I fall short of deserving your kind words, my unknown sister! Help me, O my Savior, help us all, that these intervals in our lives come oftener, when we shall be at least a very little worthy of being thought of by some one, as a child of God. Shall we lose, or be any poorer by forgetting self sometimes, and handing over money that we do not owe in the eyes of men? What does the Bible say?

Bring ye all the tithes into the storehouse, that there may be meat in mine house, and prove me now herewith, saith the Lord of hosts, if I will not open you the windows of heaven, and pour you out a blessing, that there shall not be room enough to receive it.—MAL., iii. 10.

A word from our suffering sister, Mrs. G. B., and her husband may not be amiss.

Dear Sir:—The hives came all right. They are just what I want. Thanks for the hives. I consider it a great favor. My wife is getting well and I feel thankful to God for his great mercy to us. G. B.

The following little postscript was appended to the letter, after her husband had written, and without his knowledge as I infer.

Dear Friend:—I don't think I will ever be well, but I try to encourage my husband all I can. He little knows all I suffer; but I feel very thankful to our heavenly Father, that I am a little better. From your ever grateful friend,— H. N. B.

Perhaps more than one wife knows what it is to bear pain uncomplainingly for her husband's sake, and for the sake of the dear ones about her, or, in other words, for Christ's sake. Keep up your courage, dear sister, and do not doubt; God will certainly give the needed grace to bear your great sufferings, if he does not remove them. Many hearts are beating for you, and many are praying for your relief. Read:

Dear Brother:—You don't know how my heart went out toward G. B., when I opened GLEANINGS, and read the first two letters; for my wife was in the same state once. I trusted that the Lord would cure her, and in answer to my prayer God sent here to live a doctor who had had the care of the insane at the asylum. Some may say it happened so; but I look at it as an answer to my prayer, for he came two weeks before anyone here expected him. He got his business fixed up so he could leave sooner than he expected. Our Father's hand was in it all. Pleasant Hill, Mo., Mar. 12, '80. G. M. KELLOGG.

The following is closely connected with the same subject, and coming, as it does, from one of our most successful bee-women, I think it will be read with interest by you all. If I mistake not, it will help more than one suffering sister, and perhaps brother too. The letter was written to Mrs. G. B., but I obtained permission to use it for publication.

Dear Sister:—Having read your letter and that of your husband in GLEANINGS, my heart felt drawn out in sympathy for you, as I have been an invalid for many (about 25) years. Years ago, I, too, suffered most terribly with pain in my head, caused by other sickness, and the wrong use of medicine by mistake. I have found freedom from care the best medicine, and Jesus the greatest physician. As I look back over my long life of sickness, I can plainly see that all these afflictions have been for my good, and the good of my dear friends. I now firmly believe that "All things work together for good to those who love God."

Dear Sister in Jesus, let me, one who has suffered much, but is now in comfortable health, though still an invalid, point you to a sure cure. In the first place, cast all your care upon Jesus, for he surely cares for you more than your dear husband even. I think your greatest trouble is that you are

trying too much to carry your own burden. When you lay your burden once upon Jesus, leave it there. You are not required to shed many tears; I don't know that the Bible requires us to weep at all. In your condition, all God requires is that you will, like a tired child, lean upon the bosom of Jesus. Tell him you want to rest awhile there. Leave there all your burdens, and amuse yourself with something as the tired child would be amused. Just leave that head ache with him; don't try to make long prayers. I have been, for months at a time, so that I could hold my mind in prayer only just long enough to utter a sentence or two at a time. Remember Jesus knows all this, just as well as you can tell him. Every time you can think of him, try to look up into his loving face, and tell him to hold you in his powerful arms, as you feel that you would fly away from him; at least that is the way I used to feel, but I have been at rest for years; and you will gradually come into that rest, if you will thus come to Jesus, and, as Brother Root says, go among Christian people and unite yourself with some Christian church. Do not fear you will become a stumbling block so long as you have a desire to love and obey God. We only become stumbling blocks when we cease to feel anxious to do what is pleasing to him.

Your suffering body has much to do with your mental condition. I found there were no medicines like outdoor air; it would almost always soothe my troubled brain to go out of doors, and sit or lie in the bright sunshine, having my head shaded with a hat. Listen to the birds and bees, look up into the clear blue sky, and try to feel that God who made all you can see is your own dear Father. Don't look back over the past, for Jesus has paid it all, and if you will only believe it, you are a child of that loving Father, a joint heir with Christ. Is not this enough to make you happy, deep down in the depth of your soul?

If you are poor in this world's goods, it cannot hurt you; Jesus was so poor he had not where to lay his head. But you belong to God, and all things in Heaven and earth belong to him, and he will not see you want any needful thing.

I find there is nothing like outdoor exercise for the over active brain. By degrees, I began to live out of doors, first for health's sake; then I began to care for our few colonies of bees, and continued to care for them, and live with them, until they increased to 300, and I could be on my feet several hours in a day, and head ache was all gone, and nerves were quiet and very much strengthened. In winter, however, my lungs trouble me so that I cannot be out of doors much, and other weaknesses confine me to my bed; but my trust is in Jesus, and my heart and mind are at rest. I believe you, too, will find quietness and rest and health if you will thus put your trust in him, and live out of doors. Even the sunshine coming in through the window makes our plants thrive; so it will also make us thrive. In some health institutes patients are required to take sun-baths by exposing themselves, clad only in one thin wrapper, to the bright rays of the sun for hours at a time. I have found these baths to be more beneficial than medicine. Also riding is very good; the blue sky is above you, and the eye rests every where on the verdure of nature, which is soothing and quieting to the brain.

Dear afflicted sister, if I have said anything out of the way, please forgive me, as my only desire is

to comfort and help you. With all my ailments, I can never be well again, but I am just as happy as if I were well, and it is your privilege to be happy; though the way to be happy is not to labor for happiness, but labor to please our heavenly Father, and happiness will be the result. This I know from experience.

I am looking forward with pleasure to the coming of warm weather, when I can again be out of doors, as pneumonia has kept me indoors for nearly two months, and other troubles have kept me upon my bed; but I lie in the sunshine which comes in through my window, and I can always be busy at something, which, with the love of Jesus, makes sunshine in my heart. It is not our Father's wish that this world should be all dark to us. If it were so, he would not have put into the world so many things beautiful to the eye, so much that is charming to the ear, and so much love. If we show ourselves lovely, even the dogs, cats, horses, and all our domestic animals will learn to love us; even the birds and wild animals may be taught to love us. Sorrow and darkness may last for a night, but joy and sunshine will dawn with the morning. It may be night with you just now, and often the darkest hour is just before day, but when morning dawns we trust you will be happy. At all events, if you and I love and serve Jesus a little while here, a long eternity is in store for you and for me in that better land not far away. Lovingly your friend—

Roseville, Ill., Mar. 16, 1880. S. J. W. AXTELL.

There is something wonderful in these answers to prayer, especially in the way God brings events about; many times the relief comes in a way that we should think least likely of all. W. O. thinks that, with his present trade on ink, he will almost be able to take up the \$700.00 this summer, but he is much distressed by the great advances on glass, and fears his friends will think he has advanced the price more than he need to do. I have assured him that we all know he is doing the best he can. See the following:

Friend Root:—I bought \$3.00 worth of W. O.'s ink as per advertisement in GLEANINGS, and sold over half of it to-day in three hours, at a good margin. The person who tries it is sure to buy from one to six bottles. I retailed black, violet, and blue at 10 cents per bottle; the red and green at 15 cents. Here is a good chance for the ladies to do W. O. a favor, and benefit themselves. All colors sold readily except the blue. Thanks to W. O. and his advertisement.

D. D. PALMER.

New Boston, Ill., April 10, 1880.

Is not this wonderful? I am very glad to know, friend P., that your customers are willing to pay 10 and 15c., but would it not have been better to have charged them less? We sell a great many articles on the 5c counter that cost us 50c a dozen. It does not give very much profit, but one has a happy feeling of having benefitted somebody, and with this, somehow, I always feel, too, a Savior's approving smile. The ink now costs \$5.00 per gross, or \$1.25 for a box of $\frac{1}{2}$ gross, but even if it should get up to \$5.00 per gross, I should retail the bottles for 5c. Where you have expensive express or freight charges to pay, of course, you can not do this, and so I presume it is well for

each one to be the judge of what he can sell for.

It is with a little hesitancy that I give place to the following, but I think those who have followed these pages will catch the true spirit that I wish to convey.

Dear Brother Root:—Yes, now my brother too, since by the influence of the Home Papers I have been led down into the grave of our Savior, and have risen with him "with a new song in my mouth, even praises unto his holy name." I want to thank you for the good you have done me and mine, through GLEANINGS, and exhort you to keep on in the good work. Do not grow weary or discouraged. In many homes, all over the land, your quiet, earnest home talks are working as leaven in meal, and many seeing your good works will "glorify our Father which is in Heaven."

CLARA V. BUNKER.

Eldara, Ill., Feb., 1880.

Dear Brother Root:—How can I do the most good? is a question I often ask, and "What wilt thou have me to do?" is a prayer I often use. The answer this morning seems to be, "Write Brother Root now." Paul says, "Those things which you have both learned and received and heard and seen in me, do; and the God of peace shall be with you." Now, I believe it; that is, if we do right, God will be with us and bless us always. But the point is this: how can I do the most good? Now, dear readers, Brother Root says his journal goes into over four thousand homes, and I think if each one of us who profess to love God would lend ours to four or five other families, fifteen or twenty thousand persons or more would be reached every month by a good sermon, for Our Homes is good. I take the journal just for that part of it, and lend mine to more than ten families each month. Now, if you want God to be with you, do right, and live for and in him.

Weymouth, O.

E. C. CARRINGTON.

May God bless you both, dear friends, for your kind and inspiring words; but when you send me such, pray for me that they may not make me proud of the work my Savior has seen fit to give me to do. Lend the journal by all means, if your neighbors care for it, and if it gets soiled and worn, write me a postal and I will send you another. God will furnish the money to pay for all that may be used in doing his work.

CIRCULARS AND PRICE LISTS OF BEE-KEEPERS' SUPPLIES RECEIVED DURING THE PAST MONTH.

C. L. Sones, Sereno, Columbia Co., Penn., has a neat Price List of Bees and Queens on a postal card.

James A. Nelson, Wyandott, Kansas, sends us a single leaf Price List of Comb Fdn.

TWO-LEAF CIRCULARS,

Advertising bee supplies in general, we have received as follows: S. P. Bloomily, La Grange, Walworth Co., Wis.; Edwin Thew, Morrisonville, Clinton Co., N. Y.; I. S. Crowfoot, Hartford, Wis.; J. R. Landes, Albion, Ashland Co., O.; and S. Valentine, Double Pipe Creek, Carroll Co., Md., who also offers Albino Bees.

FOUR-LEAF CIRCULAR,

Comes from Francis Dunham, De Pere, Brown Co., Wis.

CIRCULARS OF 12 OR MORE PAGES

Are sent by Scovell and Anderson, Columbus, Kansas, and J. M. Shuck, Des Moines, Iowa.

The account book for bee-keepers, as arranged by friend Doolittle after having reviewed and examined all the plans that have been sent in, will be given in the June No.

If you imagine our new all-in-one-piece section is not stout enough, just nail them after folding up with $\frac{1}{4}$ or $\frac{1}{2}$ wire nails; they can be nailed more quickly and neatly than you can imagine, unless you have once tried it. The corners can also be glued very rapidly, but I can not see any sort of use of nails or glue either.

OUR CARTOON FOR MAY.

ACCORDING to the best information I have, it was another neighbor of friend Merrybanks, who believed in the good old way of a tin pan serenade, when the bees swarmed. Of course the queens' wings were not clipped for that was one of the new fangled notions, and as it was an imported queen from his best swarm, all hands were called to assist. His good wife got the dish-pan, his son George got the drum, and the whole family turned out, and did the best they could. The dog, catching the inspiration, joined in with his sonorous voice, the chickens also added their high keyed notes, and even the neighbors rushed to their doors, and gazed with the usual interest in such proceedings. The oldest boy has got a hive on his shoulder, and, with broad grins in keeping with the general jubilee, is marching for the bees. Suddenly the swarm rises higher and higher, and finally starts over the fence for the woods. At this juncture, friend Merrybanks arrives, for he had just stepped into his buggy, to drive to the postoffice for GLEANINGS; but hearing the melee, he hastens his horse, perhaps a little excitedly, and, like all the rest, hurries to the scene of action.



"SWARMING TIME."

Alas! alas! His well-trained nag hearing so much noise and din, with a sudden snort and jump capsize the wagon, and, as the bees soar away for their leafy home, Mr. M. comes tumbling into the dust. As there is no more room, I think I shall have to tell you the rest about the runaway swarm next month.

THE ground in our apiary is so yellow with dandelion blossoms it is almost laughable to look at.

TO-DAY, April 27th, we have 4,475 subscribers. This is the highest point that GLEANINGS has ever reached; thank you all.

EVEN with improved machinery, and facilities far in advance of what we had last season, it takes 68 of us to keep the business going.

IN making wired frames, slip your frame over a board form, and then you can draw the wires tight, without bending the bars of the frame.

NAILS are down about 1c per lb. already, and we hope to see them go more. We keep carefully posted, and you shall have the full benefit of each "drop."

THE main feature for our cartoon this month was furnished, with a sketch, by Samuel Bittenbender, Knoxville, Iowa.

ONLY one man has complained because we left out the table of contents, and so I suppose that most of you, like myself, prefer to have the space occupied by something that conveys more practical information.

SO far as I can learn, friend Alley has satisfactorily settled up with all who were dissatisfied. Should there be any more, they are hereby requested to make it known *now*, or "forever hold their peace."

PEAT for smokers is furnished by our friend Frank Chapman, Morrison, Ill. If this notice gets him into trouble, he must have a stack of barrels of it put up ready to ship, and then "hang out his shingle."

BARTHELEMY & SONS of New Orleans, La., sent us 15 queens by express, in some of their own cages, and only 5 reached us alive. They then sent us 15 in our usual glass-bottle cages, and *every one* came alive and hearty.

CONVENTIONS.

May 5.—Southern Michigan Bee-Keepers Association, at Battle Creek, Mich., at 10 A. M. May 12.—Northern New York Bee-Keepers' Association, at Glens Falls, N. Y. May 18.—Rock River Valley Bee Convention, at Davis Junction, Ill. May 18.—Southwestern Wisconsin Bee-Keepers' Association, at the residence of E. France, Platteville, at 10 A. M. sharp.

Honey Column.

Under this head will be inserted free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away, to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25cts., we can furnish little boards to hang up in your doorway, with the words "Honey for Sale" neatly painted. If wanted by mail, 10c. extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CINCINNATI.—Honey.—Best White-clover Honey in bbls. and half-bbls., 10 @ 11c. Ditto, in 1 lb. jars, per dozen, \$2.20; per gross, \$25.00. Ditto, in 2 lb. jars, per dozen, \$3.75; per gross, \$42.00. Ditto, in ½ lb. tumbler, per dozen, \$1.50; per gross, \$16.50. Popular, Buckwheat, Linn, and fall honey in bbls., 8 @ 9c. Comb Honey not much in demand, with no stock in the market.

Beeswax.—Dull and quoted @ 20c.

Cincinnati, O., Apr. 21, 1880.

CHAS. F. MUTH.

NEW YORK.—Honey.—Best white Comb Honey, in small neat boxes, 15 @ 17c.; fair ditto, 13 @ 14c. No dark honey in market. Extracted Honey, White Clover and Basswood, 9 @ 10c.; Golden Rod, 8 @ 10c.; Buckwheat, 7 @ 8c. Southern strained, per gal., 70 @ 85c.

Beeswax.—Crude, 23 @ 25.

A. Y. THURBER.

155 Duane St., New York, April 22, 1880.

CHICAGO.—Honey.—The market is well supplied with honey, and with the demand only fair, prices are weak. Good to choice comb in small boxes is salable at 18 and 20c. per lb., and extracted is quoted at 8 @ 9c.

Beeswax.—Steady at 21 and 23c. per lb. for good to choice yellow, and at 15 and 18c. for common dark-colored to fair lots.

THOMAS G. NEWMAN & SON.

974 West Madison St., Chicago, Ill., Apr. 22, 1880.

ST. LOUIS.—Honey.—Our honey market is pretty nearly bare of any good comb honey, and prices are as follows: Choice comb, 18 @ 21c. Medium rather active at 15 @ 16c. Extracted, slow, sells at 9 @ 11c.

Beeswax.—Steady at 21½ @ 23c.

R. C. GREER & Co.

No. 117 N. Main St., St. Louis, Apr. 19, 1880.

H. A. BURCH & CO.,

don't advertise much, but they carry a full line of

BEE - KEEPERS' SUPPLIES,

which, for quality and price, make their customers happy. Competent judges say that their

COMB FOUNDATION

is away ahead of all competitors. If you ever feed bees, try a

Heddon Feeder,

the latest, and by far the best, invention of its class; we are the sole manufacturers for 1880. For

DOLLAR QUEENS

from best strains of Italian blood, we shall lead the trade, and you should see that your your orders are sent in early. The choicest of

TESTED AND IMPORTED

Queens always on hand. If you want splendid **MONEY GATHERING** stock, try our Queens. A good supply of

FULL COLONIES

at prices that will please you, if you want the **BEST** bees. Finally, if you want the neatest Apian catalogue, printed in any land or language, send your name on a postal card, to

H. A. BURCH & CO.,

5d

SOUTH HAVEN, MICH.

EARLY OHIO POTATOES.

For Italian Bees, Comb Foundation, and Apian Supplies, see page 192, April No. Send for Circular.

Address **ERNST S. HILDEMAN,**
5d Ashippun, Dodge Co., Wis.

FOUNDATION 36 CTS.

Having taken a partner in the business, we are now prepared to lead the trade in Comb Foundation. Regular sizes, 9x16½, or 9x18, or 8x16½.

1 to 50 lbs., per lb. 40c
50 " 100 " " " 38c
100 " 500 " " " 36c

Will work wax as follows:
10 to 50 lbs., per lb. 18c
50 " 150 " " " 15c
Over 150 " " " 12½c

For special size, 2c per lb. extra.
Will pay 20c per lb. for nice, clean wax, or 22c per lb. in trade, delivered here.
5d **F. J. FARR & CO.,** Independence, Mo.

CHEAP HIVES & CHEAP SECTIONS

THE BEST BEE HIVES, HONEY BOXES,
SECTIONS, FRAMES, &C.,

FOR THE LEAST MONEY.

Manufacturers of the Lewis Section, all in one piece, the finest section in the world, and we make them perfect.

NOTICE.

There is no patent on the above section and the Examiner of Interferences of the Patent Office has adjudged the same unpatentable; so anyone has an undisputed right to manufacture, sell, or use the same. Do not be misled by parties claiming a patent on the same. Send for Price List.

LEWIS & PARKS, Watertown, Wis.

WARRANTED ITALIAN QUEENS

Tested Queens in May \$3 00
" " " June 2 50
" " " May 1 50
" " " June 1 25

Bees per lb., same price as "dollar" queens.

The "dollar" queens are warranted to be purely mated.

My queens are bred from choice imported stock. I warrant safe arrival and perfect satisfaction.

E. M. HAYHURST,
5d Kansas City, Jackson Co., Mo.

CYPRIAN, ALBINO, AND ITALIAN BEES,

AT PRICES TO SUIT PURCHASERS.

I am prepared to furnish, Cyprian, Albino and Italian Queens, bred from imported and select home bred mothers, warranted pure, safe arrival guaranteed. Send for price list before purchasing elsewhere. Address **LEVI R. LASH,**

Summit Station P. O., Schuylkill Co., Pa.,
3-8d or **HENRY C. HEISLER,** Minersville, Pa.

CHEAP BEES!

Imported, tested, and Dollar Queens, for sale. Write for prices. **D. E. BEST,**
5d Best's Lehigh Co., Pa.

LARGE, PROLIFIC Queens from Imported Mothers, after May 15th, \$1.00 by mail. Nuclei, Bees by the lb., Imported Queens, and Dunham Fdn., specialties. Satisfaction guaranteed. Circular free.
5d **F. L. WRIGHT,** Plainfield, Mich.

SENT FREE-- My Price List of Italian Bees, Queens, 4 Frame Nuclei, and Apian Supplies for 1880. Address,
5tfd **H. H. BROWN,** Light Street, Col. Co., Pa.

WAX WANTED!

I want all the pure wax I can get to work into foundation at 20c per lb., or for half the wax. My machine I regard as good as the best.

JAS. B. HAWKES,
5-6d Arlington Heights, Cook Co., Ill.

Salisbury's "WONDER" Chaff Hives, and improved Simplicity Hives, wonderful for their simplicity and cheapness. Section Boxes, Comb Foundation, Smokers, Extractors, Italian Queens, &c. "Prices low." Send for circular.
5d **B. SALISBURY & CO,** Battle Creek, Mich.

TESTED QUEENS!

We will sell tested queens, from imported mother, at \$2.50. Will also fill any order for untested queens as low as any one else. Safe arrival guaranteed. Express charges at expense of purchaser.

BARTHELEMY & SONS,
5d Coliseum, cor. Valence, New Orleans, La.

Headquarters for Early Queens!

Imported and Home-bred; Nuclei and full Colonies. For quality and purity, my stock of Italians can not be excelled in the United States. If you wish to purchase Bees or Apian Supplies, send for my new Circular. Address **Dr. J. P. H. BROWN,**
1tfd Augusta, Ga.

Albino and Italian Queens, Full Colonies, and Nuclei, at Reasonable Prices.

I am prepared to furnish early Queens—Pure Albinos, and Italian Queens bred from imported and select home-bred mothers, warranted to be pure. Safe arrival guaranteed. Also Hives, Root's Extractors, and Apian Supplies generally. Send for Price List, &c.

Address **S. VALENTINE,**
3-6d Double Pipe Creek, Carroll Co., Md.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For description of the various articles, see our Twenty-Fifth Edition Circular and Price List, mailed on application.

For directions *How to Make* all these various articles and implements, see A B C of Bee Culture.

This Price List to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of postage required.

To Canada, merchandise by mail is limited to 8½ oz., and nothing can be sent for less than 10 cents postage.

	A B C of Bee Culture, Five Parts complete in one, paper cover.....	1 00
	The same, neatly bound in cloth.....	1 25
15	Lighting Board, detachable (See A B C) \$	10
	Alsike Clover. See seeds.	
	Balances, spring, for suspended hive (60 lbs.)	8 00
	Barrels for honey.....	2 50
	" " waxed and painted.....	3 50
10	Basket for broken combs to be hung in the Extractor.....	25
	Basswood Trees for planting. See price list.	
	Bees, per colony, from \$8 to \$16. See price list.	
10	Bee-Hunting Box, with printed instructions	25
0	Binder, Emerson's, for GLEANINGS.....	50, 60, 75
10	Blocks, iron, for metal cornered frame making.....	15
	Buckwheat. See seeds.	
10	Burlap for covering bees, 40 in. wide, per yd	10
	Buzz-Saw, foot-power, complete.....	35 00
	Buzz-Saws, extra, 80c, to \$3.25. See price list.	
60	Buzz-Saw mandrel and boxes complete for 6 inch saws (no saws included).....	5 00
	The same for 7 and 8 in. saws (not mailable)	7 00
4	Cages for queens, provisioned (See price list)	10
	" " per doz.....	1 00
	Candy for bees, can be fed at any season, per lb.....	08 to 15
	Cans for shipping extracted honey (See Honey), from 25c to \$2.00.	
0	Cards, queen registering, per doz.....	06
0	" " per 100.....	40
60	Chaff Cushions for wintering (See A B C) ..	30
9	" " without the chaff.....	20
2	Chaff Hive (See Hives).....	5 00
	Cheese cloth, for strainers, per yard.....	06
	Clamps for making section boxes.....	75
10	Clasps for transferring, package of 100.....	15
	Climbers for Bee-Hunting.....	2 50
	Comb Basket, made of tin, holds 5 frames, has hinged cover and pair of handles.....	1 50
	Comb Foundation Machines complete \$15 to 100 00	
10	Comb Holder to put on edge of hive.....	25
	Combs in metal cornered frames, complete	25
20	Corners, metal, per 100.....	50
25	" " top only, per 100.....	60
15	" " bottom, per 100.....	40
	Corners, Machinery complete for making \$250 00	
	Crate for shipping comb honey. See Hives.	
40	Division Boards of cloth and chaff.....	20
12	Duck, for covering frames and for feeders, 29 inches wide, per yd.....	20
15	Enameled Cloth, bees seldom bite or propolize it, per yard, 45 inches wide, 30c. By the piece (12 yards).....	28
	Extractors, according to size of frame, \$6 50 to 10 00.	
	" " Inside and gearing, including Honey-gate.....	4 00
	" " Hoops to go around the top.....	50
	" " per doz.....	5 00
5	Feeder, Simplicity (See price list) 1 pint ..	06
7	Feeders, 1 quart, tin.....	05
5	The same, half size.....	05
25	The same, 6 qts, to be used in upper story	50
20	Feeders, open air.....	15
3	Files for small circular rip saws, new and valuable, 15c; per doz. by express...	1 75
07	" " The same, large size.....	40
2	" " 3 cornered, for cut-off saws, 10c; doz	1 00
	Foundation. See Comb Foundation.	
60	Fountain Pump, or Swarm Arrester.....	8 50
5	Frames with sample Rabbet and Clasps...	07

18	Galvanized Iron Wire for grapevine trellises per lb. (about 100 feet).....	20
25	Gates for Extractors thinned for soldering..	50
5	Gauge for planing lumber, brass.....	50
	" " making hives (See Hives).....	50
55	Gearing for Extractor with supporting arm	1 25
	Glass. See price list.	
0	GLEANINGS, per year.....	1 00
	For prices of back vol's, see price list.	
	Gloves. See Rubber Gloves.	
	Grape Sugar for feeding bees. See price list.	
	Grape vines for shading hives. See price list.	
	Hammers and nails. See price list.	
	Hives from 50c to \$6 25. See price list.	
	Honey. See price list.	
	" " Plants. See seeds.	
0	Honey Knives, straight .75; curved blade..	1 00
	" " ½ doz, by mail.....	4 00
	" " ½ doz by Express.....	3 75
	Jars for shipping extracted honey. See Honey.	
	Labels for honey, from 25 to 50c per 100; for particulars see price list.	
	Lamp Nursery, for hatching queen cells...	5 00
0	Larvæ, for queen rearing, from June to Sept.....	25
15	Leather for smoker bellows, per side.....	50
0	Lithograph of the Hexagonal Apiary.....	25
1	Magnifying Glass, pocket.....	25
5	" " Double lens, brass, on three feet.....	50
0	Medley of Bee-Keepers' Photo's, 150 photo's	1 00
12	Microscope, Compound, in Mahogany box	3 00
0	Prepared objects for above, such as bee's wing, sting, eye, foot, &c., each	20
7	Muslin, Indian head, for quilts and cushions, pretty stout, but not good as duck, per yard.....	10
	Nails. See Hammers and nails.	
10	Opera Glasses for Bee-Hunting.....	5 00
18	Paraffine, for waxing barrels, per lb.....	25
	Photo of House Apiary and improvements	25
	Planes and Planers. See price list.	
15	Pruning saws for taking down swarms, 75 and 85	
0	Queens, 25c to \$12 00. See price list.	
2	Rabbets, metal, per foot.....	02
0	Rubber Gloves, \$1.50 and \$1.75. See price list.	
	Rubber Stamps, \$1.50 to 3.00. See price list.	
0	Rules, (See Pocket Rules) 12 and 17c.	
	Salicylic acid, for foul brood, per oz.....	50
10	Saw Set for Circular Saws.....	75
	Saws. See Circular Saws.	
	Scales for weighing honey, etc. See price list.	
0	Scissors, for clipping queen's wings.....	40
0	Screw Drivers, all metal (and wrench combined) 4½ inch, and 5 inch, 8c.	
6	Section Boxes, fancy, hearts, stars, crosses, &c., each.....	05
	Section Honey Box, a sample with strip of fdn. and printed instructions.....	05
	Section Boxes in the flat by the quantity, \$6 00 per thousand and upwards, according to size; for particulars, see price list.	
	Case of 3 section boxes, showing the way in which the separators are used, suitable for any kind of hive (See price list)	07

SEEDS OF HONEY PLANTS.

18	Seed, Alsike Clover, raised near us, per lb..	25
18	Catsnip, good seed, per oz. 10c; per lb.	1 00
0	" Chinese Mustard, per oz.....	10
18	" Mellilot, or Sweet Clover, per lb.....	75
18	" White Dutch Clover, per lb.....	30
18	" Motherwort, per oz. 10c; per lb.....	1 00
18	" Mignonette, per lb. (20c per oz.).....	1 40
	" Simpson Honey Plant, per oz.....	50
18	" Silver Hull Buckwheat, per lb.....	10
	" " peck, by Express	60
	" Common " per peck.....	50
18	" Summer Rape. Sow in June and July, per lb.....	15
	" Spider plant, per oz.....	50
A small package of any of the above seeds will be sent for 5 cents.		
	Separators, tin, for section boxes. See Section Boxes.	
5	Sheets of Enameled Cloth to keep the bees from soiling or eating the cushions...	10
	Shipping Cases for 48 section frames of honey.....	55
	The same for 24 sections.....	35
	(This size can be sent by mail in the flat, for 75c.)	
1	Slate Tablets to hang on hives.....	1¼

SMOKERS.

	Smoker, Quinby's (to Canada 15c extra)	1 50 & 1 75
	" Bingham's	\$1 00; 1 50; 1 75
25	" OUR OWN, see illustration in price list	75
00	Soldering Implements	1 00
	Swarming Box	75
2	Tacks, tinned, per paper, (three sizes)	05
	For larger quantities see Hammers and nails.	
5	Thermometers	20
10	Transferring clasps, package of 100	15
	Tin, see price list.	
0	Veils, Bee, with face of Brussels net, (silk) The same, all of grenadine (almost as good)	75 50
	Veils, material for, grenadine, much stronger than tarlatan, 21 inches in width, per yard	20
	Brussels Net, for face of veil, 29 inches in width, per yard	1 50
	Wax Extractor	3 00
	Copper bottomed boiler for above	1 00
5	Wire cloth, for Extractors, tinned, 5 meshes to the inch, per square foot	10
2	Wire cloth, for queen cages, tinned, 18 meshes to the inch	10
3	Wire cloth, painted, for shipping bees, 14 mesh to the inch, per square foot	05
	Wire for grape vine trellises. See Galvanized iron wire	

All goods delivered on board the cars here at prices named.
A. I. ROOT, Medina, Ohio.

BEE KEEPERS intending to purchase Bees or Queens will do well to send for my New Circular, before purchasing elsewhere. Pure Extracted Honey wanted in exchange for Bees and Queens.
6d A. W. CHENEY, Orange, Mass.

IMPROVED

Langstroth Hives.

Supplies for the Apiary. Comb Foundation a specialty. Being able to procure lumber cheap, I can furnish Hives and Sections very cheap. Send for a circular.
2td A. D. BENHAM,
Olivet, Eaton Co., Mich.

TESTED AND

Imported Queens,

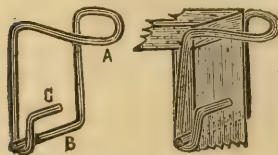
DUNHAM FOUNDATION,

MODEST BEE HIVES, SECTION
AND HONEY BOXES,

may be had of— J. OATMAN & SONS,

DUNDEE, KANE CO., ILL.

N. B.—Shall hereafter raise no dollar queens. Will confine queen rearing to producing finest strains of tested queens, bred for business. Please take notice. Write for price list.
5-7d J. OATMAN & SONS.



MARTIN'S

wire support for frames. Cheapest support in use; durable and just the thing. Sample by mail, 6 cts; 30 cts. per lb., 100 in a lb.

TRY OUR ITALIAN QUEENS!

Send for price list. Bees by the pound, nuclei, or colony. Circulars of our Bees, Queens, and Novelties sent free. Address—
4-9d J. H. MARTIN, Hartford, N. Y.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st. If wanted sooner, see rates in price list.

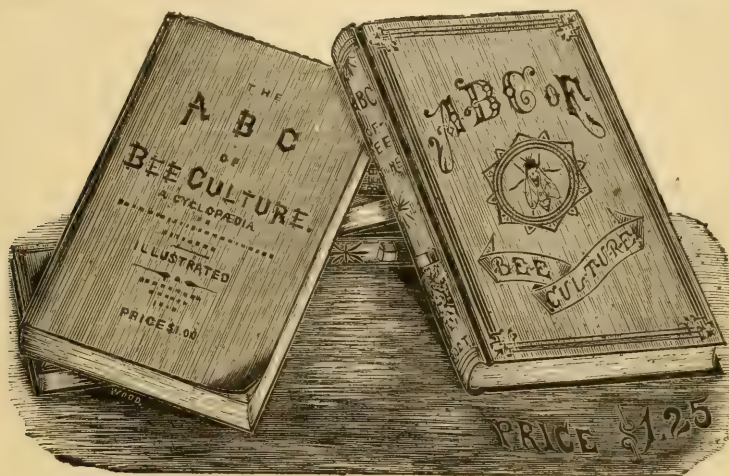
*E. W. Hale, Wirt C. H. W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-3tf
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	1tf.d
*King & White, New London, O.	12tf.d
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*R. Landes, Albion, Ashland Co., O.	1tf.d
*J. E. Walcher, Millersville, Christian Co., Ills.	1-6
*D. A. McCord, Oxford, Butler Co., O.	2-1
*D. E. Best, Best, Lehigh Co., Penn.	2-8
*R. Robinson, LaClede, Fayette Co., Ill.	3-8
*S. F. Newman, Norwalk, Huron Co., O.	3tf.d
*C. C. Vaughan, Columbus, Maury Co., Tenn.	3tf.d
*S. W. Salisbury, Kansas City, Jackson Co., Mo.	3-8
*S. D. McLean & Son, Culleoka, Maury Co., Tenn.	3-8
*S. D. Moore & Co., Atlanta, Fulton Co., Ga.	3-8
*T. G. McGaw, Monmouth, Warren Co., Ill.	3-8
*R. Thomson, Terry, Hinds Co., Miss.	3-8
*Lewis A. Best, Best, Lehigh Co., Pa.	4-9
*J. B. Bray, Lynnvile, Giles Co., Tenn.	4-9
*J. W. Newlove, Columbus, Franklin Co., O.	4-7
*H. T. Bishop, Chenango Bridge, Broome Co., N.Y.	5-7
*O. H. Townsend, Hubbardston, Ionia Co., Mich.	4-9
*Thos. E. Price, Baden, St. Louis Co., Mo.	4-8
*Oliver Foster, Mt. Vernon, Linn Co., Iowa.	4tf.d
*I. R. Good, South West, Elkhart Co., Ind.	5-10
*J. M. C. Taylor, Lewistown, Fred. Co., Md.	6-11
*B. Marionneaux, Plaquemine, Iberville Par., La.	5-5
*Ila Michener, Low Banks, Ontario, Can.	5-10
*J. J. Swartwout, Union City, Branch Co., Mich.	5-7
*Dr. B. F. Kinney, Bloomsburg, Col. Co., Pa.	6-9
*W. H. Nesbit, Alpharetta, Milton Co., Ga.	6-8
*Jas. P. Sterritt, Shakleville, Mercer Co., Pa.	6-8
*R. J. Fox, Natick, Middlesex Co., Mass.	6
*W. S. Canthen, Pleasant Hill, Lan. Co., S. C.	6d
*J. C. Deem, Knightstown, Henry Co., Ind.	6-9
*V. W. Keeney, Shirland, Win. Co., Ill.	6-9
*J. O. Facey, New Hamburg, Ont. Can.	6
*J. T. Wilson, Mortonsville, Woodford Co., Ky.	6-5
E. B. Plunket, Atlanta, Ga.	6-8
*J. Osburn & Bro., Le Claire, Scott Co., Iowa.	6
*J. A. Bingham, Volant, Law. Co., Penn.	6-8
R. J. Fox, Natick, Middlesex Co., Mass.	6
*I. M. Kaufman, Belleville, Mifflin Co., Pa.	6-8

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La.	1tf.d
Milo S. West, Pontiac, Oakland Co., Mich.	1-6
A. A. Fradenburg, Port Washington, Tus. Co., O.	1-6
T. F. Wittman, 318 N. 6th St., Camden, N. J.	3tf.d
S. F. Newman, Norwalk, Huron Co., O.	3tf.d
Sprunger Bro's, Berne, Adams Co., Ind.	3-2
J. F. Hart, Union Point, Greene Co., Ga.	4-3
J. W. Newlove, Columbus, Franklin Co., O.	4-6
Nichols & Elkins, Kennedy, Chaut. Co., N. Y.	6-11
H. V. Train, Mauston, Juneau Co., Wis.	6

THE A B C of BEE CULTURE.



FOR several years, it has been my ambition to be able to write a book on bee culture, so clear and plain that not only any boy or girl, but even an old man or woman, with the book and a hive of bees, could learn modern bee culture, and make a fair, paying business, *even the first season*. This is a great undertaking, I grant; and it will require some one with far greater wisdom than mine, to do it the first time trying. After watching beginners, and answering their questions almost constantly, for years, I came to the conclusion, that the only way to do it was to "cut and try," as carpenters say, when they can't get the exact dimensions of the article they wish to make.

To cut and try on the A B C book, I have invested over \$2,000 in type, chases, etc., sufficient to keep my whole book standing constantly in type, that can be changed at a moment's notice. The books are printed only as fast as wanted, and just as soon as I see I have omitted anything, or have made any mistake, the correction is made before any more books are sent out. To show you how it works, and how it succeeds, I will give you an illustration.

A beginner writes to know if it is of any use to keep a queen, after she is eighteen days old and does not lay. Now I know very well that a queen should lay when from ten days to two weeks old; and also, that they will sometimes not commence until they are three weeks old, and then make good queens. Now, although I directed that they should be tossed up in the air, to see if their wings were good, when they did not lay at two weeks of age, I did not say, if their wings proved to be good, how long we should keep them. If I could spare the time of the colony, I would keep a good looking queen that could fly well, until she is 25 days old; if crowded for a place to put cells, I would kill all that do not lay at 18 or 20 days old.

I have just put the above in the A B C, and that is just the way I am going to keep doing. You see, you beginners are, ultimately, to build up the book.

It will tell you all about the latest improvements in securing and **Marketing Honey**, the new 1 lb. **Section Honey Boxes**, making **Artificial Honey Comb**, **Candy for Bees**, **Bee Hunting**, **Artificial Swarming**, **Bee Moth**, all about **Hive Making**, **Diseases of Bees**, **Drones**, **How to Make an Extractor**, **Extracted Honey**, **Feeding and Feeders**, **Foul Brood**, **Honey Comb**, **Honey Dew**, **Hybrids**, **Italianizing**, **King Birds**, **The Locust Tree**, **Moving Bees**, **The Lamp Nursery**, **Mignonnette**, **Milkweed**, **Motherwort**, **Mustard**, **Nucleus**, **Pollen**, **Propolis**, **Queens**, **Rape**, **Raspberry**, **Ratan**, **Robbing**, **Rocky Mountain Bee Plant**, **Sage**, **Smokers**, including instructions for making with illustrations, **Soldering**, **Sourwood**, **Stings**, **Sumac**, **Spider Flower**, **Sunflower**, **Swarming**, **Teasel**, **Toads**, **Transferring**, **Turnip**, **Unifing Bees**, **Veils**, **Ventilation**, **Vinegar**, **Wax**, **Water for Bees**, **White-wood**, and **Wintering**. It also includes a **Glossary of Terms and Abbreviations** used in **Bee Culture**.

The book, as it is now, contains about 300 pages and about 200 Engravings.

Bound in paper, mailed for \$1.00. At wholesale, same price as GLEANINGS, with which it may be clubbed. One copy, \$1.00; 2 copies, \$1.90; three copies, \$2.75; five copies, \$4.00; ten copies, \$7.50.

The same, neatly bound in cloth, with the covers neatly embellished in embossing and gold, one copy, \$1.25; 2 copies, \$2.40; three copies, \$3.50; five copies, \$5.25; ten copies, \$10.00. If ordered by freight or express, the postage may be deducted, which will be 12c on the book in paper, and 15c each, on the book in cloth.

A. I. ROOT, Medina, O.

Contents of this Number.

A B C Scholar, What He Did.....	264
Account Book for Bee-Keepers.....	261
Anomalies in Science.....	273
BEE BOTANY AND ENTOMOLOGY.—Colorado Bee Plants. Dragon Fly.....	259
Bee-Keeping, California.—Vine Clover Apiary.....	267
BLASTED HOPES.....	258
California as a Bee-Keeping State.....	274
Chaff Hives, Roofs to.....	270
Dysentery or Confinement the Cause of Our Win- tering Troubles,—Which?.....	259
Extracting Honey.....	255
First Attempt with Bees.....	269
Friend Jones, and a Sketch of His Search for Hon- ey Bees.....	268
GLEANINGS, Criticisms Suggested by April No.....	269
GLEANINGS, May No.....	266
Grape Sugar for Feeding Bees.....	258
GROWLERY.....	262
How the Bees Remove the Water from Thin Hon- ey,—Friend Thomson's Story.....	270
HUMBUGS AND SWINDLES.—Mitchell.—A Suit on Hand.....	260
LADIES' DEPARTMENT.....	258
Lamp Nursery and Dollar Queens.....	266
Natural History, Novel Discoveries in.....	272
Notes From the Banner Apiary.....	255
OBITUARY.—Rufus Morgan.....	258
OUR OWN APIARY AND HONEY FARM.—Selling Bees and Queens. Simpson Honey Plant. Red- Clover Queen. The Braula, or Italian Bee- Louse. Italian or Scarlet Clover. The Bass- wood Plantation. The Common Locust as a Honey Plant. Simpson Plant in May.....	263-265
Painting Hives Inside.....	271
Queens in Stocks Supposed to be Hopelessly Queenless.....	271
SMILERY.....	265
Tools, Useful.—Progress in Tool Making.....	256
Water For Bees.....	267
Wax Extractors, Improvements in.....	274
INDEX OF HEADS OF GRAIN, NOTES AND QUERIES, AND OTHER SHORT ARTICLES.	

A B C Book, How it Makes Trouble.....	279
A B C Scholar, Chapter from Real Life.....	275
A B C Scholar, Enthusiastic.....	281
A B C Scholar's First Trans- ferring.....	287
A B C Scholar's Mishaps.....	282
Abandoning New Swarms.....	278
A Dilemma.....	288
After Swarming, Preven- tion of.....	280
Asparagus as a Honey Plant.....	275
Bee Culture in Olden Times.....	285
Bee-Keepers & Bee-Losers.....	286
Bees, Active.....	287
Bees, Do They Get Lazy in Tropical Climates?.....	279
Bees Dying in Cellar.....	278
Bees, Tinkering Them to Death.....	284
Bees, Where Queens came from.....	285
Book of Record for Bee- Keepers.....	278
Borrowing Journals.....	286
Buckets, Wooden, as a Sur- plus Honey Capacity.....	288
Candy Bricks Outdone.....	276
Candy For Bees.....	278
Candy For Bees, Lazy Man.....	286
Chaff Hives, Sloping.....	286
Chaff, France.....	281
Chaff Packing.....	284
Cheirograph, How an A B C Scholar Uses It.....	284
Climatic Corner.....	286
Combs, Furnishing built out.....	275
Combs, Immovable Movable.....	285
Counter Store.....	283
Drones, To Get Rid of Live.....	284
Dwindling, Spring.....	284
Florida.....	290
Fdn., Made by Dipping, One Operation.....	254
Fdn., When to hang in Hives.....	284
Fdn., Worker vs. Drone for Starters.....	281
Friend Good's Good Success &c.....	278
Glass-Cutters.....	286
Grape Sugar Candy, Making.....	276
Hand Holes to Hives, Im- provement in.....	283
Handling vs. disturbing bees.....	275
Hives, Rinsing With Salt Water.....	279

Honey Column.....	294
Home Market, How to de- velop.....	280
Honey Boards.....	282
Honey Dew.....	279
"Honey Keeper" Wanted.....	285
How do the Busy Bees.....	283
Hybrids, 3/4 Italians.....	281
King Birds or Bee Martins.....	287
Mice, Look out for.....	278
Ordering Goods.....	261, 265, 288
Passage, Novel for Surplus Honey.....	283
Parker's Machine for Fas- tening in Starters.....	279
Patent Hives, Trying Them.....	277
Queens, How to Import.....	286
Queens, Missing.....	285
Queens, Red-Clover.....	282
Queens, Retarded Develop- ment of.....	285
Red Bud.....	287
Render unto Caesar, &c.....	277
Robbers, How to Disgust.....	287
Robbers, How to Get Out of Hives.....	283
Saffron as a Honey Plant.....	287
Saws, Planing.....	283
Sections, All-in-one-piece, Who is the Inventor?.....	285
Seven-Top Turnip.....	286
Sheets, Turner's.....	283
Shot Guns vs. Fountain Pumps.....	284
Simpson Plant Seed, Ger- minating &c.....	282
Simpson and Spider Plants.....	276
Slates, Paper.....	277
Smoke Making Bees Angry.....	282
Smoking Bees with Mulein Leaves.....	280
Sorghum, Favorable Report From.....	281
Sourwood.....	282
Sugar Cane as a honey plant.....	285
Swarms Coming to be Taken Care of.....	285
Thistles, Blue, Canada, &c.....	287
Thistles not dangerous weeds.....	276
Tool, New, for the Apiary.....	279
Tongs and Gloves.....	283
Watering Bees.....	277
Wings for Brushing off Bees.....	283
Wintering Bees, How Much Does it Cost?.....	281

NEVER take an expensive trip to your express or freight office for goods, before you have had notice of their shipment.

We have to-day, May 27th, 4,778 subscribers, and there are 95 of us busily at work, filling your orders. Some of us work a good deal more than 10 hours a day too, I tell you.

A WATCH FOR FOUR DOLLARS.

It is a fact; a good serviceable watch, in nickel case, is now made in Waterbury, Conn., for the small sum named above. I could not believe it, until I had sent for one and carefully tried it. It is put in a very pretty case or box besides, and is a stem winder, no key ever being required. The only fault, if it can be called a fault, is that it requires about two minutes to wind it up. The spring fills the whole case, and, by this long winding, a great many wheels are spared, and a very weak spring that will not be liable to break, runs it easily. I can furnish them for the above price, if you wish, but it must be distinctly understood that I cannot assume any guarantee at such a small price. The watches are sent out, regulated, in good running order, and a book of instruction is sent with each. They can be sent by mail for 20c. extra.

PROGRESS OF THE FDN. BUSINESS.

GIVEN's machine has not been a success with us, and although it cost us \$40.00, it has been deposited in the back room, and we use the rolls as before. Four pairs of rolls are now at work in our wax room. For making starters the 5 inch machines do the nicest work, and do it fastest. The machine of Mr. Faris, mentioned last month, has made beautiful fdn., L. size, and I have offered him the \$100.00 for it, or \$125.00, if he will come with it and show us how to use it. I am looking for him every day, so you see that dipped fdn. has come, as I told you it would.

LATEST FROM THE "SEAT OF WAR."

MR. A. I. ROOT.—Your letter is received. As to getting a hundred dollars for my invention,—that hardly entered my mind. I have been working on it for over twelve months, and have spent, in time and money, more than \$100.00. If you could see my yard all strewn over with broken fragments, now worthless, and know how many sleepless hours I have spent besides, I suppose you would not think \$1,000.00 too much. If I had your printing-press behind me, I could make \$5,000.00 this season.

Now, I am going to make you two propositions: 1st.—If you will pay me \$100.00, and bear my expenses to your place and back, I will give you a half interest in the invention, and we will both manufacture the machines, and divide the profits equally. I will come up at once and get the work started, and you must do all the advertising free. 2d.—I will take \$500.00 for the invention, and come up and start the work for you.

If you do not accept either of these propositions, I want you to advertise for me, and I will pay you liberally. If you do accept either one, let me know at once, so I can get to your place before you go to press. I think there will be time, if you reply by return mail. If you think not, you would better delay going to press, a day or two until we can get settled, and you can advertise in June No., dipped fdn. machines, for making fdn. at a single dip, L. size, \$5.00; for starters, \$2.50. Directions for using given with each machine.

Chilhowie, Smyth Co., Va., May 24, 1880.

JOHN FARIS.

I replied as follows:

I can not but feel that you are exaggerating the importance of your invention, friend F., for, even though it be all you imagine, and the machines could be made for \$1.00 and sold for \$5.00, I do not think it would bring you \$5,000. I will accept your first proposition, but I think you would better be sure you have it all perfected, and that you can make machines that will work the first time, without any bother, before we offer them for sale. In view of this, I do not think best to delay the June No., but if, when you come up, you have it all in nice working trim, we will issue a GLEANINGS extra, to announce it. Very likely it will take a month to have machines and fdn. already to send out, and I think we may therefore expect it in July No.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

JUNE 1, 1880.

No. 6.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

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NOTES FROM THE BANNER APIARY.

No. 7.

HOW I EXTRACT HONEY.

IN the April No. I told you how I raised queens and extracted honey; now, we will suppose that the honey is ready to extract, and I will tell you how I go to work to extract it.

My shop is a building that was once used for a dwelling; it has a pantry, bedrooms, and innumerable shelves, nooks, and cupboards, and I have taken the pantry for my honey room. I have a good, wide, long shelf put up, at a convenient height, and in a solid and substantial manner, across one end of the pantry. To one end of this shelf my extractor is firmly fastened with screws. And now let me describe two dishes for receiving the cappings, and straining the honey from them. They are made of tin; are 12 inches in diameter, and 14 inches deep. Two inches from the bottom is a false, or a removable, bottom, made of perforated tin; not the ordinary perforated tin, but it is perforated something after the style of a nutmeg grater. In the bottom is a honey gate through which the honey may be drawn off. A round hole, 12 inches in diameter, is made in the shelf, and the can is slipped down into this hole until a projecting rim that is around the top of the can rests upon the shelf. The cans have tin covers. When one of these cans becomes filled with cappings, it is removed and set one side, and the other one put in its place. After the honey has drained out and been drawn off, the cappings are washed in a barrel of water, and then put away to be melted into wax. The water in which the cappings are washed is made into vinegar.

I have a nice light wheelbarrow, upon the platform of which I can place four hives; there is also a nice track, made of boards, extending from the door of my shop to the center of my apiary. I fill four hives with empty combs, and wheel them out into the apiary. I then carry one of the hives of combs to a hive from which I wish to remove some frames for extracting, and take out a few frames of comb and lean them against the hive, in order to make room for the frames of honey as I take them from the hive. I look over the upper story, and remove every frame in which the honey is sealed over one-third of the way down from the top, shaking

the bees either into the upper story or else in front of the hive. The few straggling bees that remain are brushed off with a turkey quill. After I have removed all of the honey that is sufficiently ripened, the empty spaces in the upper story are filled with empty combs, and I then proceed to "interview" another hive in the same manner.

My hives are Simplificities, holding eleven American frames; and as the lower stories, with the exception of perhaps one or two outside frames, are pretty well filled with brood before the upper stories are put on, the queen seldom goes "up stairs;" but when I do find a "patch" of brood in a frame in an upper story, I extract the honey from the comb in which it is found, and then open some lower story and take out an outside comb that contains no brood, spread the brood frames apart, and put the frame with the little "patch" of brood in the center of the brood nest.

When I obtain a load of honey, I wheel it to the honey room and extract it, and then take the load of empty combs back to the apiary and exchange them for another load of honey.

When extracting, I leave the honey gate open. To receive the honey I use a large tin pail. I cover the pail with a board, and a cheese cloth, bag strainer hangs through a two inch hole in the board cover; thus the honey is strained as fast as it is extracted. When a pail is full, it is removed and another is put in its place. For storing honey, I have some large tin cans, with cloth covers similar to your extractor covers, and furnished with honey gates for drawing off the honey. They are about 17 or 18 inches in diameter, about 27 inches deep, and will hold 300 lbs. of honey. They cost, last season, \$2.10 each. After newly gathered honey has stood a few days, a scum rises upon it; this I skim off.

Some bee-keepers tell us to wait until the honey is all sealed over before extracting it, but I have always extracted mine when it was one-third sealed, and I would not ask for better honey. Perhaps location has something to do with the matter.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

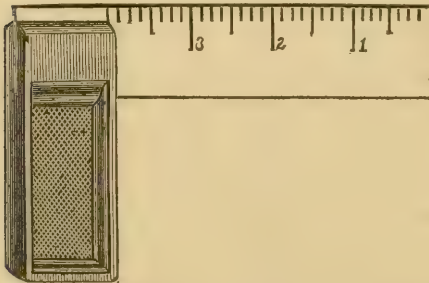
It seems to me, friend H., that pail under the honey gate would be getting full and running over every little while. I believe I should have a barrel, or manage to get one

of those large cans set in the floor, or in a room below, so as to work right along, without any stopping to empty pails.

USEFUL TOOLS.

ALSO SOMETHING ABOUT THE PROGRESS IN TOOL MAKING.

WHEN my oldest brother was about 14, he announced his determination to become a machinist. Of course, he and I had a great many talks about making steam engines, machinery, and tools in general. In due time, he was an apprentice in a machine shop, and about the first piece of his handiwork that he brought home was a little try square, made of bright steel. As it was passed around and examined by the different members of our family of seven, I remember his saying that he worked a half day on it, after it was all done, in getting it exactly "true." The boss told him that a try square like that, exactly true, was worth \$2.00, and that very few were to be found in the hands of mechanics or in the stores, that were true enough to do fine work with. Years have passed and I presume he, as well as myself, has had ample experience of the value of a true try square. A few days ago, I saw a picture of just such a try square, made by the Stanley Rule and Level Co. I sent for a sample, and found it not only made all of metal, but absolutely true, inside and out. As we buy largely of their small tools, I soon had a bargain made for a gross of them, and instead of being able to sell them at 50c, as I had first hoped, I succeeded in putting them on the 25 cent counter. Below is a picture of the tool.



OUR ALL METAL 25 CENT TRY SQUARE.

How is it possible to make such a tool for the money? I presume it is done by having very nice and expensive machinery, perhaps automatic machinery, that, when it is once set just right, will make the tools almost of itself; for it is just as easy to make things right, as to make them wrong, after man's intelligence has taught the inanimate matter that goes to make up the machine, to be subservient to his will.

I thought when I had found some steel pliers for 25c, I had done pretty well; but, a few days ago, I saw a notice of pliers made something like the 5c scissors. At first, I thought I would not send for a sample, but finally did, and was so much astonished to see so pretty and strong a tool for only 5c, that I ordered a gross at once; we have

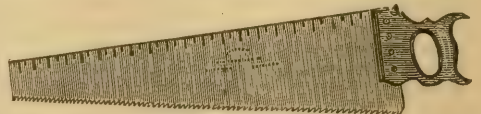
used them all about the shop, and they not only do excellent service, but, to my surprise, I have not yet heard of one's breaking. Still later the manufacturers announced a tool they called "nippers." This was also to be sold for 5c, and I had been so well pleased with the others, I tried again. Our engraver has tried to show below, what was sent.



THE FIVE-CENT "NIPPERS."

It looks like a very pretty pair of cutting pliers; but, as cutting pliers cost from a dollar to a dollar and a half, I decided they could not be intended for cutting wire. I do not know but "nippers" is the right name, for they are the best thing for "nipping" hold of things, and holding them securely, that I have seen; at least for anything near like the money. The finish and neatness is the most surprising feature of these cheap tools. One is almost invariably tempted to think the manufacturers must have stolen them, rather than to believe it possible that they can be made for any such insignificant sum.

One day I was obliged to saw off some rough boards, and, having no square with me, I laid my saw across the board as nearly square as I could, and made a mark to saw by with a nail. Once in a while, I could guess pretty well; but most of the time my boards were anything but square at the ends. While deciding that my eye was not as good as a try square, I all at once thought of having the saw handle made in such a way that it would direct the blade of the saw exactly square across the board, and then, under the influence of this new inspiration, I decided to have a lead pencil put into the saw handle, so as to have a saw, square, and pencil, all in one. Imagine how my air castle tumbled to the ground, on finding that Disston makes just such a tool exactly. Below is an engraving of it, and it is sold for a dollar.



COMBINATION SAW, WITH 24 IN. SQUARE AND RULE, STRAIGHT EDGE, AND SCRATCH AWL.



KEY HOLE OR COMPASS SAW.

Who has not broken a key hole or compass saw, at some time or other, just because it was small and slender, just as, in fact, it needs to be? Well, Disston has just got up one, that slides back into the handle so that,

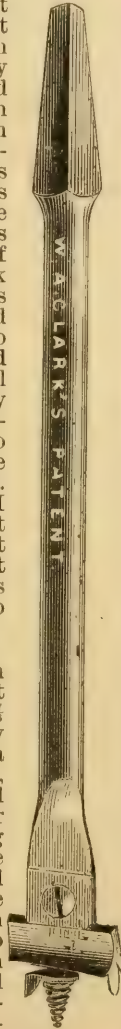
when you are using only the extreme point, the remainder of the blade is so supported and protected, that it can neither bend nor break. The whole tool is only 25c, and separate blades 15c. Postage, etc., on all these tools will be found among the counter goods.

EXPANSIVE BITS.

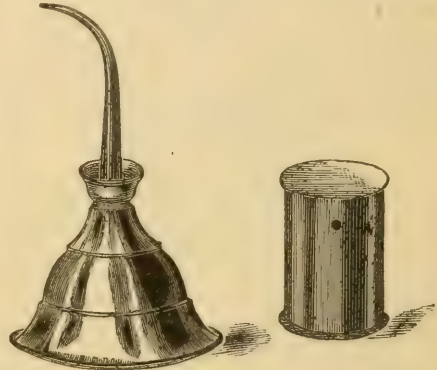
Boring holes may be thought to be a very simple matter, but to bore a hole and have it smooth and neatly finished is not so very easy after all. Many bits and augers will bore very well when new, but to keep them always in nice trim is not so easy. Besides, to bore holes of all sizes requires a larger outlay in bits and augers than most people care to invest. The expansion bits that can be set to bore holes of as many sizes as you can mark circles with a pair of compasses is quite an ingenious tool, and the cutters that go with it are so made that they can be removed to be sharpened almost as well as you can sharpen an ordinary plane bit. With the great demand there is now for cages to send queens in by mail, these tools are almost indispensable. My first one cost me \$5.00, and I thought it a great saving even at that price, but we have now got them down so that the largest size, boring from $\frac{1}{4}$ up to 3 in., is only \$2.50. And this brings us to

OUR MAILING QUEEN CAGE.

If you remove the cutters from the above tool, you will have left just the center part boring a $\frac{1}{4}$ hole. In boring a hole of any size, this $\frac{1}{4}$ center always goes a little ahead of the large cutter, and we therefore have a small hole, say $\frac{1}{8}$ in. deep, in the center of the large ones. In making our smokers, we cut out of the center of the bottom, round pieces of tin of exactly $\frac{1}{4}$ in. The idea occurred to me that a tin bottle could be made to slip into this shallow cut, so that, when surrounded with candy, it would be firm, and we should have only one operation of boring in making a queen cage. To be sure that the bees can not be out of water, even if the cage should stand a certain side up several days, we have put a partition across the bottle, and have two openings (on opposite sides), and therefore, of course have, virtually, two bottles. To make these bottles, cut pieces of thin tin (Tagger's tin is the best), 2 5-16 by $\frac{1}{4}$; roll them up, and then cut round pieces for the partition, with a $\frac{1}{4}$ hollow punch; push the round pieces just half way through these tubes; this can be done best by slipping the tubes on a stick having a square end; while on this stick, the partition is to be neatly soldered, and the seam is then soldered up; now solder one of the $\frac{1}{4}$



round pieces before mentioned on each end; for openings, prick holes large enough to take in the nozzle of a sewing machine oil can. One of those from the 5c counter will do very well, although a 10c one is better where you have a great many cages to fill. To fill bottles already fastened in by the candy, the nozzle should be slightly bent. In the cut below, we show you the bottle, and the can for filling it.



TIN BOTTLE FOR QUEEN CAGE, AND BENT NOZZLE CAN FOR FILLING THEM.

The bent nozzle can easily be forced through the meshes of the wire cloth, so as to fill the cage at any time, even when it is full of bees. The tin bottle being in the center, the bees have a promenade all around it, and no nook or cranny into which they may wedge themselves and die, as has so often happened with some forms of cages.

A bottle with only this one small opening will not let any water out, no matter which side up it be turned, unless shaken violently, while the bees can sip it out with their tongues as readily as from a cell of honey. They thus have right near them, pure sugar and pure water; neither will sour so long as kept separate, and the bees can mix them as fast as they wish. Why not fill the bottles with honey? Because it would get thick and sticky, unless made thin with water, and then it would soon sour in hot weather. At present the cheapest rate at which we can furnish these double tin bottles is 1c each, or 15c per doz. In making them, use only rosin to solder, not the soldering fluid, for it could scarcely be washed out, so as not to endanger the life of the bees. We have tested them pretty thoroughly for mailing, and the tin seems to answer just as well as glass for the water. Our expert friend, Moore, of Atlanta, Ga., sent us 40 queens, half with water in tin bottles, and half with candy only. While all the queens were received alive, many cages without water had *only* the queen alive, and those in the watered cages were in far better condition than the others. The cages containing these bottles, are, of course, the same cages shown in our price list, that we have used so many years. To protect the wire cloth, we simply tack a thin piece of wood over it. Having the wood slide in a groove, as described on page 108, March No., would of course be rather more convenient.

Ladies' Department.

I AM in a bushel of trouble with my bees. I am a beginner, and also a woman. Please send me a sample of some good bee journal. If the amount enclosed is right, I shall be glad, as I am in a hurry to read and learn. MRS. SCOTT FERRIS.
Neosho, Newton Co., Mo., May 18, 1880.

You speak, my friend, almost as if it were a misfortune to be a woman; you do not quite mean that, do you, even though you do aspire to become a bee keeper?

DEPOSITORY OF *Blasted Hopes,* Or Letters from Those Who Have Made Bee Culture a Failure.

DEAR SIR:—My bees are dead, but I am going to try again, and not make the same mistake over again. I took away their honey in July; they did not make enough to keep them, and your grape-sugar candy did not save them.

JNO. W. VANDEMAN.

Benzonia, Benzie Co., Mich., Apr. 13, 1880.

GRAPE SUGAR FOR FEEDING BEES.

AT the recent convention of the Central Michigan Bee-Keepers' Association, an hour was devoted to the relation of experience in wintering bees. The president was specially called out. He said he had lost about 40 colonies last winter. The bees were kept in the same cellar where they were wintered for two years previous, with loss of only two colonies. He attributed his loss largely to feeding a candy made of grape sugar*, coffee sugar, and flour, as directed in GLEANINGS last autumn. He said he was not sure that was the entire cause, as his bees were not as well prepared for winter as usual, he having been in the state of New York at the time when his bees should have been prepared for winter. He believed the result would have been much better, if he had fed honey, or a syrup made of white sugar.

The association, by vote, requested these statements to be sent to GLEANINGS in BEE CULTURE.

J. ASHWORTH, PRES.

Lansing, Mich., May, 1880.

I see in May No. of GLEANINGS, p. 230, under "Grape Sugar," that Mr. Maring feels like writing of grape sugar under Humbugs and Swindles. Now, my experience is quite the reverse of friend M.'s. In March last, I ordered from the Davenport Co. 110 lb. of sugar, 6 lb. of which I made up as directed on p. 385 of Oct. No. of GLEANINGS, '79, and divided it equally among my bees, 6 stands, before the weather was warm enough for bees to fly. The remainder, 104 lb., I have fed outside of hives, and it is all gone, and no white clover yet; but I hope the clover will be along by the time June No. of GLEANINGS comes.

Now, if Mr. Maring could see my six stands of bees which have consumed 110 lb. of grape sugar, he would not say, humbugs and swindles, for they are

* I sent for a card of your candy to see if it was like mine.

full of bees and lying outside of hives, waiting for white clover; and I think, from the number of bees to the hive, they will bring it on the fly.

The drones are out, and I fear the bees will swarm before clover comes.

Now, Mr. Root, as this is my first feeding of grape sugar, I would like to ask, was it feeding too much to the hive? for, you see, 210 lb. for 6 stands makes 18½ lb. to the stand.

J. P. WATT.

Duck Creek, Ill., May 15, 1880.

Friend Root:—Perhaps I was a little hasty in my letter written a short time ago, denouncing grape-sugar candy, but I assure you it did not express one tenth part of the pure "cussedness" which I felt, just at that particular time.

I had lost six swarms of bees, which had from eight to ten pounds of honey to the swarm, thinking I could bridge them over with the candy. Another colony had just swarmed out, and I did not believe you could make a bee eat it, though you choked him until he was white in the face.

I say I had a colony swarm out; I took some water scented with peppermint, and gave them a light sprinkling as they were going into other hives, so they would not get stung to death, and then took all the combs from the hive they had left, as they had commenced to rob it, but left the grape sugar candy. The next day, seeing them flying out and in pretty freely, I looked in and found that they had eaten about half of the frame of candy. So I filled the hive with frames of candy, set it in one corner of my bee yard, and now I have a boss feeder.

I have 22 colonies, 4 in Simplicities and 18 in box-hives. They are all packed in chaff at the top, and all are in splendid condition.

I intend to let my box hives swarm, and then remove them from their old stands, giving the new swarms in their place, upon fdn., and in Simplicity hives, putting on an upper story filled with sections. How do you think that will work? W. P. HALL.

Pembroke, Genesee Co., N. Y., May 15, 1880.

P. S.—I don't intend to winter on grape sugar; not a bit.

W. P. H.

I must return thanks for the grape sugar candy. My bees had stored so little honey last fall, that, without the candy, I could not have brought through more than two swarms out of ten.

MRS. CHAS. FAVILLE.

South Wales, N. Y., May 5, 1880.

The grape sugar candy has proved a complete success with me. I made up quite a large amount in the early part of winter, and gave to all my bees, especially to the weaker colonies, and have not an ounce of it left over; but, instead, I have strong colonies that I have to watch to keep from swarming.

Belleville, Ill., May, 1880.

E. T. FLANAGAN.

The above letters were picked up almost at random. They only show that grape sugar, like many other things, is used and liked by some, and not by others. One friend had decided that bees could not eat it, and afterward found them taking it greedily, when they got on a robbing raid. I think those who get the "hang" of it will continue to use it year after year, with economy and good results. Our trade in it steadily increases; I think we must have sold, at least, 10 tons of it last season, for feeding bees. With good, strong colonies, that can get up and keep up the requisite heat to melt it, I have never had any trouble; but, in weak nuclei, I have often seen the bees starve with any kind of candy.

DYSENTERY OR CONFINEMENT THE CAUSE OF OUR WINTERING TROUBLES,—WHICH?

MR. EDITOR:—As my article on page 541 *American Bee Journal* for 1879 seems to be causing our friends some trouble, perhaps it would be well for me to rise and explain a little. Our friends seem to be so shocked by the first part of the article referred to, that they overlook the latter part. What I desired to have understood was this: that confinement of the bees to the hive was the cause of all our wintering troubles, and not a so called disease, dysentery, as I believe no such disease exists. I may have been a little fast in using mankind, or the animal kingdom as an illustration, comparing that kingdom to the insect kingdom. However, the fact will stare us in the face, if we will rationally look at it, that confinement to the hive is the main cause of the mortality of bees during winter, and, as a consequence, of spring dwindling. Friend Roop does not stop even to smooth off the corners of his words, in his criticism of my article. I wish to notice one point in what he says on page 121 of GLEANINGS for 1880. He says, "I supposed that nature designed the honey bee, as well as nearly all the insect creation, to go into a partially dormant state, on the approach of cold weather, and remain so for several months without any injury to themselves whatever," etc. I had supposed that bees were a native of a warm climate, where they had a chance to fly often, and by man they had been introduced into a cold climate, where stern winter held them bound to their hives for months.

Mr. Editor, which is right? One thing we know: bees do not go into that dormant state, as do flies, wasps, ants, etc., so that they are apparently perfectly lifeless during extreme cold. On the contrary, if we go to a hive on a zero morning, and quickly lift out a frame from the centre of the cluster, those under the crust bees are as lively as in July, and often in the middle of January, if the swarm is strong, have brood rearing going on to a small extent, the same as in July. As a consequence of this activity, food is being all the while consumed, while flies, wasps, and ants eat nothing. As a consequence of the consumption of food, bees must empty themselves sooner or later, or perish. Hence, from being deprived of this privilege comes the so called disease dysentery, which, in our opinion, is no disease at all, but simply the effect of confinement on account of cold weather. Dampness from whatever cause, poor honey, extreme cold, or anything which causes the bees to consume an undue quantity of honey, calls for them to fly often in order to survive; while dryness, good stores, an equal temperature above the freezing point, and perfect quiet enables them to remain healthy for months and not fly at all. However, if all these favorable conditions were to exist, probably no colony could live a year without flying. The so called dysentery could not be produced, if the bees had a chance to fly every day, no matter how poor their honey, or how cold the nights were. Hoping I have made myself understood, and have not used language to give offense to any one, I am—

Yours for the progress of apiculture,

Borodino, N. Y., May, '80. G. M. DOOLITTLE.

I think I get your meaning, as I did at first friend D.; but still I think you state it a little strongly. It is true bees do not go

into a dormant condition, just as flies, ants, etc. do, but I think, under the most favorable circumstances, they become at least partially dormant. In opening a hive of Italians suddenly, during cool weather, I have found them knotted together, in a way that seemed, at first, to indicate that they were all dead. There might have been some movement in the centre of this knot, but it certainly did not look so. This matter has been often spoken of. Still farther; bees in this state live almost without food, if the temperature keeps pretty even. Some have taken the ground that they absolutely did not take food. I am sure they can, at least, live a good while with very little indeed. Well, bees have repeatedly been kept in the hive four months, and without any injury at all. I am not prepared to say whether they voided any excrement all this time, or not. I am at least pretty sure it was not of the kind we see bees void that have the dysentery. Healthy bees may be made to have a kind of dysentery at almost any time, by chilling them while removed from the cluster. Keeping them too warm will produce the same results in confinement, as I showed by my greenhouse experiments years ago. The greatest reason why our friends claim it is a disease, friend D., is because bees winter all right at times, even in confinement in cellars, and at other times they die off fearfully under precisely the same circumstances, so far as we can see.

BEE BOTANY AND ENTOMOLOGY.

PROF. W. J. BEAL:—I send you by this mail a few flowers of which I wish you would give me the names (common names, when you can) in GLEANINGS. Nos. 1, 2, and 8 are extra good honey plants; 3, 4, 5, 6, 7, and 10 produce honey. No. 8 must be an estray as I can find but one plant in the country, and on that some 2 doz. bees are at work from morning till night nearly all summer.

I am a native of Michigan, and, if you wish, will make a collection of plants next summer, as far as I can, for you or the college. I will gather both from the country around Canon, and in the mountains. The plants I send now are from the mountains.

CHAS. E. MCRAY.

Canon City, Colorado, Mar. 29, 1880.

COLORADO BEE PLANTS.

Ten plants said to be especially attractive to bees were sent me by Mr. C. E. McRay, of Canon City, Col., for analysis. They prove to be the following:

No. 1.—*Artemesia*. The specimens of this, as also of No. 2, were so imperfect that the species could not be decided upon. This is closely related to the wormwood of our gardens.

No. 2.—*Epilobium*, often known as "willow herb."

No. 3.—*Thlaspi alpestre*. L., a small plant closely resembling sweet alyssum, often called "penny cress."

No. 4.—*Chrysopsis villosa*, Nutt., or "golden aster." It is a near relative of the golden rods and asters.

No. 5.—*Erigeron glabellum*, Nutt., nearly related to the last. It is one of the "fleabanes."

No. 6.—*Macrorrhynchus glaucus*, Eaton, or "troxim," much resembling the dandelion.

No. 7.—*Crepis runcinata*, T. and G., or "hawk's-

heard," belonging to the same suborder as the last.

No. 8.—*Scrophularia nodosa*. L. Mr. McRay says this is a rare plant in his section. It is quite common in Michigan. Its common name is "figwort." [*Simpson honey plant*.—Ed. G.]

No. 9.—*Penstemon glaber*, Pursh. I know of no common name. It somewhat resembles the foxglove.

No. 10.—*Potentilla fruticosa*, L., "shrubby cinquefoil," a plant of the Rose Family, classified with the strawberry, etc.

L. H. BAILEY, JR.,
for PROF. W. J. BEAL.

Agr'l College, Lansing, Mich., Apr. 6, 1880.

Prof. Cook.—By to-day's mail I send you a specimen which I caught devouring a bee with great gusto; it was chewing the after part of the bee down with a right good will. The bee was still alive, or what was left of him. If it is any thing of interest, you might give it notice in GLEANINGS.

V. W. KEENEY.

Shirland, Ill., April 22, 1880.

The insect sent by V. W. Keeney is a very large dragon fly. It is called bee hawk and mosquito hawk South, where it often does quite serious damage. It is referred to in "Manual of Apiary," p. 269, and in A B C, p. 74, where it receives the wrong scientific name. Asilus flies are possessed of two wings only, while these "darning needles," as they are often called, always possess four.

All of the neuroptera, or lace-wings, are predaceous, and so there are doubtless more than one species that feed on bees. Will all bee-keepers send me these enemies that we may have a full list, all correctly determined?

The insect sent by Mr. Keeney is a fine, large specimen. It is 71 millimeters (nearly three inches) in length, and expands 100 millimeters. The head and thorax are green, the body olive brown approaching to black.

These insects are easily frightened away from the apiary, as they are very shy, so they are less to be feared than the lurking bee-killers of the Asilidae Family.

A. J. COOK.

Agricultural College, Lansing, Mich., Apr. 30, '80.

Humbugs & Swindles,

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

MITCHELL.

MY brother and myself have been taking your paper for 3 years past, and we have gained a great deal of information from it. My object in writing to-day is to inform you that we have some of N. C. Mitchell's agents near here, and they are going to demand payment for the right to use their division boards in our bee-hives. April No. of GLEANINGS requests all who wish a copy of Mitchell's pretended patent to write to you for it. Please send it immediately. Send documents and all that is necessary. We want to write to the patent office as soon as we get the return from you. Ten or

twelve bee-keepers are using the frame hive with the division boards around here, so you see what a haul they would get, if we saw proper to fork over without a murmur.

Bees in this section are doing finely this spring; are all in good condition. I have hives which have drones large enough to fly.

JOE R. ELLIS.

New Martinsburg, O., April 29, 1880.

It will probably be of no use to write to the patent office, my friends. They can only give you the same copy of a patent which I send; Mitchell's selling a hive that has nothing in it covered by his patent is something they know nothing about. The mixed up condition of affairs at the patent office is well illustrated by the Lewis & Park's one-piece section-box,—see page 285.

One of N. C. Mitchell's agents called on me April 6th, and threatened to prosecute me for using division boards, unless I would buy a right of him, which he only asked \$3.00 for. Please send me a copy of Mitchell's pretended patent, and instructions for prosecuting Mitchell's agent for trying to obtain money under false pretenses; and if he bothers me any more, I will follow your instructions.

Viola, Wis., May 1, 1880.

G. W. WILSON.

It seems from the following extract from the *Indiana Farmer* for May 8th, that Mitchell has really been driven into a corner, and, as a last resort, makes a pretense of commencing suit:

A SUIT ON HAND.

One N. C. Mitchell, this city, has entered suit against us for libel, claiming damage in the sum of \$5,000 for asserting that he is humbugging the people by selling as his patent bee hive an article which is public property. As we made this assertion solely for the benefit of our readers, and to protect them from fraud, we call upon all who have had dealings with Mitchell, or his agents, to write us briefly in regard to the claims they have made, the kind of hive they offer to sell, whether or not it is the same as that described on the second column of page 2, in this number, any information they may possess regarding the character of Mitchell and his manner of doing business. Please send in these statements at once. Our contemporaries, especially those publishing Bee Journals, will confer a favor upon us by sending us promptly any information in their possession having a bearing upon the case.

His record in the back volumes of GLEANINGS will furnish all the proof that can be called for, in regard to his swindles. His absurd claim to having a patent on all division boards is upset easily by Mr. Langstroth's book, which describes division boards; see page 97, of the edition published in 1853. If he drops that part of it, and tries to hold to the woolen strips, Mr. L. can also show that he used cloth lined division boards long before Mitchell thought of a patent; in fact, the whole matter was discussed almost as freely in the bee journals as movable frames, and cloth lined division boards were a thing in common use before his patent was granted. His patent was granted on the iron lugs, as specified in the patent office reports, and no such lugs are or ever have been found in any of his hives.

We notice by the *Cedar Rapids Daily Republican* the marriage of Mr. Al. H. Newman, business manager of the *American Bee Journal*, and son of the editor. May God bless the young people, and may their ways through life be pleasantness and all their paths be peace.

THE ACCOUNT BOOK FOR BEE-KEEPERS.

AS I remarked last month, I sent the whole bundle of correspondence in this matter to friend Doolittle, and, after a careful review, he has given us the following:

Friend Root:—After much thought and study on the account-book question, I present you the enclosed as better adapted to the wants of bee-keepers than any thing else I know of. In arranging it, I have drawn quite largely, as to form, on an old diary I kept for five years, originated by Wm. Goodfellow, and sold by Hamilton Child, of Syracuse, N. Y. I would suggest, if you adopt it, that you make the book for 3 years; and, if you can get up a three-year book for \$1.00, I think you will not be disappointed in the sale of it. G. M. DOOLITTLE.

Borodino, N. Y., April 26, 1880.

INTRODUCTION.

A need has long been felt of a diary and account book adapted especially to the wants of bee-keepers, and for the use of such "The Bee-Keepers' Diary

and Account Book" has been prepared, so that the accounts, occurrences, and memoranda for one half-month may be seen at one view.

INSTRUCTIONS.

The month and a part of the year are omitted from the headings, as well as the days of the week. Supply these by writing them in. By so doing you can commence with the book at any time, and no part of it need be wasted; it will also be good for the term of months for which it is intended. Two lines are designed for each day's entries, and from three to five minutes will suffice for each day's writing. All the entries should be brief as possible, and should be closely written. On some days no entries will be made, while, on occasional days, more than two lines may be required. In such cases, commence the entry far enough above so that it will end on the bottom line for the day on which it is made, using a brace and having the point indicate the day for which the entry is made. If the bee-keeper wishes to keep a special record of different hives, it might be well to have a special book for that purpose. After keeping a daily record of this kind a few months, it is believed the apiarist will be pleased therewith.

Diary and Account Book

For the Month of July, 1880.

DAY OF MONTH	DAY OF WEEK	GENERAL OCCUPATION OF THE DAY.	SALES.	PURCHASES.
1	MON.	Extracted honey and attended to nuclei.	6 queens at \$1.50.	6 b'ns glass at \$3.50.
2	TUES.	Trimmed grapevines in bee-yard.		
3	WED.	Odds and ends in the Apiary.	Bees, to W. Clark	3 queens, A. Root.
4	THUR.	Took off box honey.	10 lbs ext honey.	
5	FRI.	Finished taking off box honey.		5 lbs. fdn. at 45c.
6	SAT.	Hoed in garden. Picked a few raspberries.	20 lb. box honey.	
7	SUN.	Went to church.		

CASH RECEIVED.			CASH PAID OUT.			MEMORANDA.
Of whom and for what.	dols	cts	To whom and for what.	dols	cts	
T. Smith, queens,			6 boxes glass,	21	00	Had 2 swarms bees to-day.
5 queens at \$1.75.		8				Grapevines doing well.
10 lbs. honey at 10c.	1	00	A. I. Root, queens,	3	00	Bees at work in boxes.
10 lbs. honey	1	00				Got off 1,000 lbs. box honey.
			5 lbs. fdn.	2	25	Garden getting weedy.
20 lbs. honey	3	60				First raspberries.
						Splendid sermon.

Our friends will observe that the above is to occupy two opposite pages. The spaces will be blank, to be filled out, except the headings and the figures denoting the days of the month at the left. You will observe that it is so arranged that one cannot easily make a mistake, and it is so plain and simple that the smallest boy or girl who has a hive of bees will know just how to use it. Friend D. thinks a dollar would be cheap enough, but I think we shall have no trouble

in making a three-year book, in cloth covers, similar to the A B C, for half that amount, or for 25c. in common, account-book covers. Before having the book made, I have thought best to submit the above to you, and await further suggestions. As we shall have the pages electrotyped, it will be well to have all the additions that may be deemed advisable sent in, before we get the work started. The diary, as a book of reference, will often be found of great value.

My friends, I would call your attention to a way of doing business that is getting to be a great cause of trouble, although it seems strange to us that such a thing should ever happen at all. To illustrate, I will give you an order, which shows the point very strongly. Read the following:

Attica, O., April 17, 1880.

Mr. Root:—Enclosed find P. O. for \$3.00, for 1/4 doz. Simplicity smokers. D. J. NEIKIRK.

Now, is there one among you who would gather from the above that there was anything to be done but to send our friend the smokers, as he has sent the price for them exactly? Of course not; but, after sending him the smokers by express, we

learned he did not order smokers at all, but only sent the \$3.00 to pay an account he owed, for smokers previously sent. The trouble is that he supposed we would remember him. With our business this is impossible; but the least hint of a former transaction would have caused the clerks to look to the ledger, and it would have been all straight. Some of you will say we ought to know everybody we trust; so we do, but that knowledge is written on the pages of this same ledger, and if you were to read it over, you would find quite a queer little history of the lives and habits of some of you. Of course, this history is never referred to unless your letter contains something referring to debit or credit.

The "Growlery."

[This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule we will omit names and addresses, to avoid being too personal.]

Then shall they also answer him, saying, Lord, when saw we thee a hungered, or athirst, or a stranger, or naked, or sick, or in prison, and did not minister unto thee?

Then shall he answer them, saying, Verily I say unto you, Inasmuch as ye did it not to one of the least of these, ye did it not to me.—MATT. XXV. 44, 45.

PERHAPS the above is a rather queer text to start a growlery with, but I guess it will do first-rate, when we get right at it. When the Growlery was first started, I had a sort of premonition that it could be made the most valuable, and, if you choose, the most profitable part of our journal. The vexations and mistakes, the blunders and misunderstandings of this life, are about as potent to invoke trouble and mar happiness as any other one thing in this world. Do you not know what it is to sink in one instant almost from joyous anticipation to almost abject misery, through the heedless blunder, careless certainly, if not intentional, of some one whom you trusted? If you don't, I do. Well, have you never noticed in our little text above that wonderful thought that it is through our fellow men, that we get glimpses of God? Now take it a little further, and, the first time you get severely tried with somebody, imagine, if you can, that it is to Jesus himself, you are talking when you scold, complain, or feel bitterness or revenge. About 75 of my fellow men are at this moment here at work, depending upon me to guide them; several thousand are writing to me for advice, and sending money. In one day's mail, last week, there were \$715.38. This business has been built up within a few years, simply by trying to hold in view the idea I have given you above. I have made bungling and stumbling work of it, as many of you know, but God has seen fit to honor even these feeble efforts. My friends, there is absolutely no limit to what may be done in this direction; let a man only get selfishness only partly out of his heart, and the world will crowd around him, and clamor for his services. I can make it plainer by some incidents in real business. By showing you my failures and mistakes, I think I can show you glimpses of that fair land away beyond, where God would lead us, and where we may know him as he is.

A customer ordered, among other goods, "Two cold-blast smokers, like those mentioned in GLEANINGS, at \$1.50 each." The clerks came to me to know what they should send him. There are no \$1.50 cold-blast smokers, for we sell our largest size at \$1.00; Bingham has a \$1.50 smoker of which we sell a great many, but it is not a cold blast. There is a Quinby at \$1.50 also. As he said cold blast, he must mean ours, reasoned I, and I directed that two of ours should be sent at \$1.00 each. He was in a hurry for

the goods, and there was no time to wait. Here is the reply:

A. I. Root:—Goods are apparently all right except the two smokers; they are of no use to us. Those parties for whom they were ordered will not accept them. I ordered 2 smokers at \$1.50 each, medium size, as advertised in GLEANINGS. I wish you would send them at once, and tell us what to do with the ones we have. H. K.

His order was hunted up, and as it was found that he made no mention of wanting Bingham smokers, we wrote him that as he did not say what kind he wanted, he must pay the express charges back on the cold blast ones. Was this right? I presume the greater part of you will say it was exactly right. So I thought; but conscience kept tugging at me after I had directed the reply. I argued the point with conscience, and declared the cold blast smoker was the best; that we were making over a thousand a month; and that everybody was pleased with them this year. Conscience replied that everybody was pleased with Bingham's too, and that no one had ever been disappointed who had received a Bingham by mistake, while quite a number had been disappointed greatly, when a cold blast was sent by mistake as in the above case. The battle was fought, like many others, and when I was humbled enough to say, "I will obey; tell me, Lord, what thou wouldst have thy servant do," the answer came something like this:

"Be just as ready to send a Bingham smoker, when there is any doubt, as to send your own; or still better, a little readier, to be sure you are not biased by a selfish preference for your own hobby. Secondly, do not tell anybody like the friend above, what he must, or must not, do. You know him, and know he is disposed to be fair and honorable; tell him, if you like, that it seems to you, under the circumstances, he should pay the charges, but never that he *must*. If he does so, well and right; but, if he does not, pay it yourself. 'It is not by might nor by power, but by my spirit, saith the Lord of hosts.'"

I know, my friends, how humanity rebels against "knuckling under" in such a way as this, and I know how many of you there are, who will say, "No sir 'ee! I do not do business in any such way;" but, for all that, it is the straight and narrow path to the gates of the Eternal City.

Please bear in mind that the above course in no manner encourages a loose and slipshod way of doing business, for it is as far from that as daylight from darkness.

Here is one more letter:

The sheets of foundation are too small. When placed on the comb guide, next to the top bar, they are 1 inch from the bottom bar, and they lack $\frac{3}{4}$ in. of touching either side. Did you intend to send tin separators? We got none. I had nothing to do with the order for the goods; but Mr. D. told me that we were to have a complete $1\frac{1}{2}$ story Simplicity hive. I have a good sized elephant on my hands,—not a nail or brad suitable for putting up the hives, except 6d. finishing, nor can I get any. I therefore send you \$2.00 for which send me that machine for putting starters in section boxes, and the balance,

less postage, in nails and brads in proper proportion. Send the wire nails and brads. W. M.

Saulsbury, Ark., Apr. 26, 1880.

You see our friend was probably so inexperienced as to think the sheets should fill the frame, when they were just right. He would also have seen, by the price list, that no nails were sent with hives unless ordered. It would seem a little hard also, that he should complain when he did not send the order himself. As our hives are mostly nailed with common fours and sixes, we thought it very strange indeed that such nails could not be had cheaper than to send *them by mail*. Orders were pressing; this letter was only one among a thousand, and it must be decided quickly, to give place to others. We sent him 1 lb. of wire nails, $\frac{1}{2}$ lb. of twos, and the balance fours, or common shingle nails, for these are the principle ones used in nailing up hives, and the sixes he said he had. The postage was over a dollar but what else could we do, with such orders. Here is his reply, after receiving them:

I sent you an order for nails and brads, or tacks, suitable for putting up Simplicity hives, crates, etc. Instead of doing as requested you sent only one size of tacks, a few No. 2 common, and the balance in No. 4, or shingle nails, which are of no use to me, and which I could get here by the keg, had I wanted them. I do not care for the little money that I am *beat out of*, but I do emphatically protest against this kind of treatment. It is certainly a poor way you have of building up or extending your business. I am charitable enough to believe that the matter is a mistake on the part of one of your employees; but you ought not to entrust your business to persons capable of making such blunders.

Saulsbury, Ark., May 12, '80.

W. M.

Is not that a "stunner," boys? I can bear blame and censure a great deal better myself than to have my faithful, hard working hands abused, and I confess the above upset me, and I beg our friend's pardon for the unkind answer I sent him. Why did he not tell from the price list we sent him what he *did* want? We did our very best to try to please him, from his indefinite orders, and this is our reward. True, our friend has charity enough to think it was a mistake, but he never dreams, it would seem, that there was any mistake or any blame at all on his part. From one of his former letters, I can readily see that friend M. is a man that means to be fair and upright. It seems to me that I can tell a man's general standing from a very few lines of his handwriting, and when I can get self and selfish feelings out of the way, I find very few indeed, especially among our bee friends, who have any deliberate purpose of wrong. Well, what is to be done in the case? What would the spirit of our opening text dictate? That friend M. should be treated precisely like a neighbor who had innocently got into any kind of trouble, and help him out; forgetting entirely his unkind words in regard to myself and my boys and girls. Send him his order, and leave it to him to decide who is at fault. If he should think I am, why pay the postage, and send him just what he does want, and trust God to make me good

or not, as he sees fit according to his infinite wisdom. Are you afraid to accept such a doctrine? Do you say you would be "fleece-d," right and left? "O ye of little faith," not only in God but in your fellow men—your friends and neighbors—the people who make up the world—made in your own likeness. Not for the purpose of gain, do I wish you to take up this course of action, for with such a thought in your mind, you could never catch the spirit at all, but for Christ's sake who died for us, and then shall ye have treasures laid up in Heaven. How many, many times have I been astonished, when bearing these little crosses to have some one come forward—perhaps one who makes no professions at all—and say, "Here, brother Root, we are not going to see you lose your money in that way," and almost instantly God's hand was seen stretched out to encourage; and it all came through my fellow men as in the opening text. "Inasmuch as ye have done it unto one of the least of these ye have done it unto me."

Please have charity for me, my friends, and be lenient when you see how far I fall short of my own teachings. Should I forget myself and write back to you inconsistently think it not me, but the evil impulses I am fighting continually, and if you have caught the spirit I have tried to show, pray for me, even as I am praying for you all to-day.

OUR OWN APIARY, HONEY FARM, AND FACTORY.

SELLING BEES AND QUEENS.

YOU know I put the price up pretty high on bees and queens for the early spring months, so that those who wanted them extra early could be accommodated by paying for them. I told you, March 1st, that we had sold down to about 160 colonies. Since then, we have sold 91 queens, and as the greater part of them were sold with a half pound or more of bees, we have now only 80 colonies left, and many of the 80 have had the queens sold out of them. This brings us about where we were last year, and we shall have to purchase largely of our neighbors. Neighbor H. has a fine apiary in chaff hives, the progeny all from imported queens. As he is just ready to start queen rearing we shall use all his tested queens, and as many of his bees as he will spare. Our neighbor Rice sold us about \$500.00 worth of bees last year, at an average of \$5.00 per colony for just the bees and brood, without hives. This was cheaper for us than to buy bees by the pound, and it seems it was a good thing for him also; for he says this season he would rather sell bees than honey, and I have just purchased of him 40 colonies to be delivered about apple bloom for \$200.00. You may say that I have a pretty large profit on bees; so I have, and if you think you would like to try selling them lower, I should be very glad to have you do so. I have had experience in many kinds of trade, but I do not know that I ever handled any kind of merchandise before, that seemed to have so many fatalities incident to it as bees. I have sometimes won-

dered if it is possible that anybody else ever went through with the many trials that I have, in attempting to ship bees and to have everybody satisfied. If they did, and did not get discouraged, I shall have a reverence and respect for them, that I have not for everybody. Below is a letter that gives you a little inkling of the matter:

Friend Root:—If you remember, I ordered a tested queen of you in June, 1879. After a few weeks, I wrote you it was not pure. You replied that she was one you bought of friend Shaw. In a few days came another letter with one from friend Shaw. You wanted me to be sure I was not mistaken. I wrote that I was not mistaken, and that I would return the queen so you could see for yourself, and sent with this letter a statement from J. S. Walter that the queen was not pure. In a few days, I got another queen. Well now, friend Root, when I came to get the A B C, I found that Mr. Walter and I were both mistaken. The queens are both pure queens, and just what I ordered of you. You will find inclosed \$3.00 with 25c for interest for the same, with an order for other goods.

M. A. WILLIAMS.

East Berkshire, Tioga Co., N. Y., Apr. 26, 1880.

Friend W., even though I am tempted to feel a little impatient with you for not being better posted before being so positive, I am more than repaid by such an evidence of the good there is yet in humanity. Your honest, frank way of owning up your mistake, and making it good with the solid cash and interest, gives me more faith in my fellow men. May God bless and reward you for this act. When queen after queen has gone to make things right, and, as far as possible, to give me a clear conscience in all these transactions, I have more than once, when the load seemed just a little more than I could possibly stand, prayed God to keep me from doubting him and my fellow men, and such letters as these help one wonderfully to go on.

With the benefit of the new wired frames to hold the combs from breaking even in the hottest weather, and of other recent improvements, we trust to have an easier time soon in getting good stock to every part of our land cheaply and safely.

SIMPSON HONEY PLANT.

The Simpson plants from our old patch of last year are now, some of them, knee high, and growing with a vigor and luxuriance that is enough to make me happy, anyway, every time I take a look at them. The boys are now cultivating them, and the plants in the greenhouse will be set out as soon as we have another rain. Besides all we have, friend Irish is to bring me 2,000 plants from old roots to-morrow, and if we do not altogether get up a humming over in the north-west corner of the honey farm, it will be at least surprising. The new plants are to be treated to a sprinkling of guano and bone dust, just to make them feel at home out of doors you know. I have some fear that high manuring may deteriorate the quality of the honey while it increases the quantity, as is the case with the amber sugar-cane.

THE RED-CLOVER QUEEN

Has wintered her colony beautifully, and

the bees seem to be just as industrious now as they were last fall. Queens have already been started, and we shall rear a large number from her this season, if nothing prevents. She is moderately light in color, but her bees are rather more of a leather color than the average Italians. There is one more reason why I rather prefer to rear queens from her than from our usual imported stock. You remember what I have said in the A B C in regard to

THE BRAULA, OR ITALIAN BEE-LOUSE.

Last fall, we found rather more of these insects on our imported queens than ever before, and they have been found occasionally on the queens this spring and winter. We have always got them off, and thought but little about it, but within a week past we have had the two letters given below:

Mr. Root:—The queen you sent me the 23d of March arrived the 27th. There was some honey in the cage, and she was alive with about $\frac{1}{2}$ of the bees. I had no trouble in introducing her. I placed her in a new hive with a fair colony, and she laid some eggs (two in a part of the cells), but not as freely as some of my black queens. This, however, I attributed to her journey. April 21st, while looking them over, I found larvae, but no eggs. While looking at the queen, I discovered an insect between her shoulders, which I removed. Its body was about as large as the head of a pin. It resembled a spider, but appeared to have a hard shell and had a good hold on the queen. To-day, April 27th, I opened the hive, and found no queen, but two queen cells capped. Now, here is a quandary. Did that insect kill the queen? if not, what did? I am very much disappointed. This leaves my colony without a queen at a time when there are no drones in any of my hives.

J. B. RATCLIFFE.

Sterling Centre, Minn., April 27, 1880.

Friend Root:—I almost feel that my hopes are "blasted," at least for a while. The \$12.00 queen purchased of you is no where to be found. I got her from the express office April 24th, late in the evening. On the Monday following I "looked her up," and found her without trouble. Upon her body, I noticed a red bug, or louse, perhaps a little larger than a good-sized pin-head. All her running about among the bees did not remove it, so I caught her as carefully as I could possibly, took it off, and replaced her, happy to think I was the owner of such a nice queen. The next day but one, I thought I would like to see her again, but could not find her; yet I was pretty sure she was there, for there were eggs in the cells. I have made searches almost daily since, but in vain. There were several queen-cells which I thought were "torn down," but I guess they were just building them, as I notice several capped cells this morning. Your sad student,

BURLEIGH R. PAXSON.

Mingo, Ohio, May 3, 1880.

What shall we think of it, my friends? I am sure, I hardly know *what* to think of it. It hardly seems from the accounts given that this should have been the cause of the queens' dying so suddenly, but, if not, what should make them die at this season of the year? I have sent them both another queen, at half price. It may be well for us to keep our eyes open. Perhaps Frank Benton can

tell us whether or not the braula is doing any damage in its own home.

THE ITALIAN OR SCARLET CLOVER.

May 12th.—To my surprise, this plant was in full bloom just as the apple blossoms were fading, and it now bids fair to be the much sought for plant that is to fill the vacancy between fruit bloom and white clover. I can scarcely imagine a more beautiful sight than would be a field of this scarlet clover. Everybody that sets eye on the blossoms falls into exclamations of praise. Best of all, it is perfectly hardy; our plants have wintered without a particle of protection, and friend Hasty says, on page 268, his have done the same.

THE BASSWOOD PLANTATION.

May 24th.—The basswood orchard is now in its glory, but the trees that are sheltered by the large oaks, are making much the finest growth. Were I to start another basswood plantation, I would go into a forest, cut out the large timber, and plant the young trees among the underbrush. In a part of our field where wild blackberries have got a hold, the basswoods are thriving most splendidly. It seems as if they wanted something to cover the ground, and protect it from the hot sun. If they were planted very thick, say 6 or 8 feet apart, and thinned out as they got crowded, perhaps that might answer as well. Mine were set 16 feet apart, and it will be many years, before they will cover and shade the whole ground. They have now been out about 10 years; many of them will blossom this season, and we shall soon begin to think of locating an apiary on the ground.

THE COMMON LOCUST AS A HONEY PLANT.

The bees are now doing so well on the locust, that I have had serious thoughts of an acre or two of locust trees. They are rapid growers, and come into bloom when not more than 6 feet high. For several years, the locust yield has been a pretty sure thing, and the honey is of fine quality. An acre of thrifty trees, to come into bloom just before white clover, could not be otherwise than quite a help to an apiary of 100 colonies. Who can tell us more about their propagation? and who will furnish trees, say from 3 to 5 feet high? It is said they are worth for posts enough to pay all expense of setting them out.

THE SIMPSON PLANT IN MAY.

The plants from the old roots of last year are growing with a robustness and vigor that promise something wonderful, to one who saw what a few plants did last year. They are now half as high as my head, and the great stout stalks measure fully a half-inch square. The 1000 roots purchased last fall are but little behind, and stirring the earth about them by running the cultivator both ways is giving them a start that is truly wonderful. Whenever I want something to make me feel happy, I just go over to that corner of the farm and look at the melilot and Simpson plants. The melilot, too, is beginning to stand up so that one could almost hide himself in the rich, dark-green

foliage. Friend Irish, who lives in an adjoining county, has just brought me a load of Simpson roots. He says he shall never more plant any seeds, for, by breaking the great brittle roots in pieces and planting them, they will grow as readily as horse-radish. I have tried a lot of them, but can not report as yet. I would say to those raising plants from the seeds, that, to winter over, they must make a good root the first season. If planted now in the open ground they would be sure to make strong roots for next year, even if they did not bloom any this season. Those we raised in the open ground in August last, all winter-killed without an exception.

The "Smilery."

THE goods I ordered were received in good order, and are entirely satisfactory. It is a pleasure to deal with a man that is prompt and honest. The same day I sent my order to you, I also sent one to B. K. Bliss, and not the scratch of a pen have I had from him yet. The freight on goods was only 30c. to Bridgeport, Ohio, and 25c. for wagon over to Wheeling.

WM. BITZER.

Wheeling, W. Va., April 30, 1880.

Friend B., do you know that the above makes me feel like dodging, or getting somewhere out of sight? I should not usually be afraid to have it said before you all; but the experience of the past month has been such, that I am afraid there are a good many of the friends who will think it conveys an awfully erroneous idea. There is one point from which we may draw a very important moral. A great many of you are now doing business, and getting money, more or less, by mail. Be sure you send a receipt for every copper you receive the day you receive it, even if you have to sit up nights to do it. If you cannot do it yourself, you can teach a boy or girl 10 years old, if you can do no better, to do it accurately and well. In a very little time, they will like it, and be proud of their ability to do business. I am now buying goods from almost all parts of the world, and we are annoyed beyond measure, by waiting weeks, or even months, before getting a single scrap of reply; sometimes the first intimation we have of the receipt of our order is the goods themselves so long afterward that we had given them up, and ordered elsewhere. I have sometimes wondered if some of the large firms did not do it because they thought it an aristocratic way, to preserve this sort of lofty silence when they have been favored with an order. I do not believe in long stories, but I do like to get a speedy acknowledgement of some kind, even if it is no more than "O. K." scrawled hastily across a postal.

WHEN ordering sections of odd sizes, please be sure to tell us which dimension is for top and bottom, and which is for sides. Many and many a time have we been obliged to delay orders, and write back to our customers, to ask this simple little question, even though the bees were swarming at the time.

WHAT AN A B C SCHOLAR DID.

FRIEND ROOT:—Some two years ago, I sent you the name of S. H. Duff as a subscriber for GLEANINGS. He was then almost without any experience whatever in bee culture. Last year, he purchased, at reasonable rates, some dozen colonies in old, dilapidated boxes. This spring, he desired me to assist him in transferring them. This I agreed to do, and last week was the time set. Thinking the apple-tree bloom would be too far gone before I could assist him, he went to work with a will, and, before the day arrived that we had agreed upon, he had them all, with the exception of three, successfully transferred. He is certainly an apt scholar. But there is an element closely associated with him in the business which I must not omit to mention,—*he has an excellent wife.* She is a reader of the GLEANINGS, and has grasped the leading ideas of bee-keeping. She assisted her husband in transferring by cutting out the combs while he fastened them into the frames. With such women, men can succeed in almost any business. It is only a verification of the old adage, "They that rock the cradle rule the world."

I am trying my hand this year on raising queens from an imported mother. I will report results in due time.

WM. BALLANTINE.

Sago, Ohio., May, 1880.

I most heartily agree with you, friend B. Of our 75 hands now at work, fully one half are women; and while they are far ahead in point of morals, they are also, for many purposes, fully equal to a man for intellect and accuracy. I do not endorse the women's rights question by any means, but I do mean that a man should take his wife into partnership in his business, whatever it is; and the more she knows of the business, in all its minutest details, the better it will be for both of them. May God bless friend D. and his excellent helpmate, and may they always work thus through life.

THE MAY NUMBER.

THE last GLEANINGS delighted me very much. With all our journals so excellent, what a hard struggle "Co-operative" will have! The man who can not be satisfied with our journals as conducted at present should look in the dictionary for such words as cynic, pessimist, etc., and see how uninviting a label they would make. How good to take up any of our journals and feel that we are to get instruction, not invective and quarrels.

Friend Hutchinson, I like frank criticisms; I should despise myself if I did not. They should be kind, and I believe you incapable of making any other. Both you and the editor misunderstood me. I wrote Mr. Nellis that I could see no possible harm from using a small tin bottle, but said, "Send one to Washington to get permit," which we can do if there is no objection. The postal authorities wish to accommodate all. I would urge not sending water till we get the permit. Of course, *we must keep the spirit of all these laws.* I wished to urge the importance of also heeding the letter.

MICROSCOPIC CLUBS.

I was delighted to hear of your microscopic club. Your cross section of sting is excellent. Such clubs and such work will keep our boys from saloons, and

other ways that lead down to death. God speed them.

HONEY DEW.

Mr. Editor, why not publish my article from *American Bee Journal*, present volume, page 36? It sets the honey dew question at rest. We certainly need more light on the matter of honey showers.

A. J. COOK.

Agricultural College, Lansing, Mich.

Many thanks, friend Cook, for your kind words. I have no objection at all to a co-operative journal, and perhaps no other way will determine so well whether it will pay or not, as to try it and see.—Your complimentary words to the boys have stirred them already to renewed exertions.—I confess that, with my many cares and calls, I had overlooked the article you mention, and take pleasure in giving it:

SOMETHING NEW ABOUT HONEY DEW.

While at Cornell University, Ithaca, New York, I became much interested in some observations and investigations made by Mr. Wm. Trelease, a very talented young man connected with the University, which entirely settles the matter of honey dew. Mr. Trelease has not only tasted the nectar secreted by the plants, but he has discovered the glands which secrete the nectar. These are often so large as to be easily recognized by the unaided vision. Mr. Trelease showed me the glands on species of cassia, acacia, pasiflora—the May-pop of Alabama—prunes, and the cotton plant. On a fine acacia growing in the botanical laboratory of the University, I not only saw the gland, but also the drop of nectar, which I found sweet to the taste. I had the pleasure, not only of seeing Mr. Trelease's beautiful drawings, but also of viewing the actual cross-sections under the microscope. The usual dermal cells are enlarged and lengthened at the glands. The cell walls seem more thin, while the enclosed protoplasm is much more dense. These glands are on the petioles of the leaves, on the ribs, or on the blade of the leaves. On the Partridge pea which has so often been noticed to be swarming with bees, the glands are large and numerous, and, Mr. T. says, rich in nectar. Let us observe during the coming season, whether the bees get all their gleanings from these nectar glands, or whether some comes from the flowers as well, and if the latter be the case, let us note their comparative value.

PROF. A. J. COOK.

This settles the question as to whether plants yield honey except from their blossoms, but does not help us in regard to honey dews falling from the atmosphere.

LAMP NURSERY AND DOLLAR QUEENS.

A WORD RIGHT FROM FRIEND HAYHURST HIMSELF.

IN reply to your inquiry on p. 231, I will say that the lamp nursery is still an indispensable article in our apiary. I have been using one every season since you first described it in GLEANINGS, and like it better now than ever. I have repeatedly tried placing the finished cells in the nuclei, and also having them hatched in the chaff hives, between sheet and cushion, but I still prefer the nursery. I now keep my nuclei quite weak, place the queen directly on the comb, do not touch her with my hands, and smoke her and the bees. By so doing, I rarely lose a queen.

Most of the queens in my yard were hatched in the nursery. On the first of May this season, my hives (52) contained an average of ten combs (Langstroth) of brood, the brood circle extending to the wood, leaving little room in the corners for stores. I think this does not indicate feeble queens.

Kansas City, Mo., May 12, '80. E. M. HAYHURST.

CALIFORNIA BEE KEEPING. NO. 2.

VINE CLOVER APIARY.

FRIEND ROOT:—As you have seen fit to publish my writings, although no name was appended (which was unintentional) except Vine Clover Apiary, I will try to write you another note. By this time I am getting better acquainted in my new home, and am busy at work with the little pets. When I left home in Iowa, I looked and felt like a candidate for the graveyard (for I had been sick for 2 months with rheumatism), but the time I have spent in California, two months, has begun the work of improvement, and I now feel like a new man.

When I left home, I put my foundation machine, which I bought of you last spring, in my trunk, and brought it with me. After showing it to friend Coon, and telling him my ideas of bee-keeping, he concluded that he wanted me to stay with him; and that he would divide the apiary, and move one half about three and a half miles away. As the bees were full of honey, and the practice here had been to take out some combs from each hive and smash them up and drain the honey from them in a somewhat old-fashioned way, I suggested that we get an extractor. But, as very much has been said about the market of California being ruined by the Los Angeles extracted honey, we concluded to try a home-made machine; and it is surprising to see how the people inquire for that "machine honey," and take it in preference to comb honey, and at the same price. But it is very thick and good honey, having stood in the hives all winter.

QUEEN NURSERY TO PUT OVER OR INTO A HIVE.

Since the bees here are all natives, and we wish to Italianize right away, we needed a lamp nursery; but, as it costs so much to get one over the mountains, I concluded to get up a substitute for one. So I took a frame the size of a honey frame, but about 2 inches broad, and divided it up into small apartments by putting partitions across both perpendicularly and horizontally. One side of said frame, I then covered with a sheet of wire cloth, and the other side is covered with pieces of wire cloth, bent at the ends so as to spring inside of each apartment. Then small beeswax cups are put in each apartment, in which honey can be put with a small zinc oiler, for feed for young queens. Now all I have to do is to lay the queen cells in the small apartments and let them hatch, and stay there till needed, as there is no danger of their murdering their sisters. The whole thing is to be hung in the centre of a strong colony of bees so as to keep up the necessary heat. Now, if you can understand this description, and if you have not published it before, I would like to have everybody know about this kind of nursery, so that patent right men dare not trouble it. It is a handy invention here, where every thing is high priced.

The *Lippia nodiflora* is not up much yet, but other flowers are blooming profusely, and the bees are building comb rapidly.

O. S. DAVIS.

Lemoore, Cal., April 9, 1880.

Thanks, friend D. Your plan of a nursery is old, and one that has been much discussed in our back volumes. The difficulty here is that we occasionally have cool nights, except in the very warmest part of our summers, and when the weather is just a little cool the bees draw away from the nursery,

and the queens are chilled. In the even climate of California, it may succeed very well in very powerful colonies. My most successful experiments in that line were with a frame of cages placed right over a strong colony. The queen cells were simply laid in the cages, which had wire cloth bottoms, and the whole was then covered with a heavy woolen cloth. By simply turning up this cloth, the queens could be picked out as fast as hatched. So well did this work, that I offered them for sale during one season, but at the approach of cool nights it lacked the requisite warmth, and I was forced to adopt the lamp to keep up an even temperature. This was before the chaff hive was even suggested, and, since you speak of it, it occurs to me that if the same device were put in a chaff hive, and a good chaff cushion placed over it, it might make a vast difference. As it is only a frame of the size of the hive, divided into boxes about 2 inches square, with a sheet of wire cloth tacked over the whole under side, it can be made and tried very cheaply. To put in cells and take out queens, you have only to uncover it, without opening the hive at all.

WATER FOR BEES.

I HAVE been studying on the problem of giving my bees water at all times inside the hive, but have pretty much given the whole thing up. The reasons for this abandonment, I will proceed to give. So far as I can discover, watered bees, like watered stocks, get below par very soon. There must be some reason for this, and I think I have hit upon it. The instinct of bees very strongly impels them to sip up all moisture found inside the hive, as a means of getting rid of it; and they will keep heroically at this work until they injure themselves. It thus becomes impossible, or nearly so, to give them, inside the hive, just what water they need and no more. The bee uses his sack indiscriminately as honey-carrier, stomach, or slop-bucket. We should be especially careful how we compel him to make the latter use of it in cold weather, when going outdoors to empty the slop is not practicable. Not only will bees attack as a nuisance all free water inside, but the experience of friend Simpson, on page 8 of the present volume, shows that they will make earnest and long continued efforts to drink dry puddles of water they find near the doorway. As these bees came out well, we may conclude that we may give water near the doorway without very much danger that serious harm will result. Friend Miller, on page 58, also gives a similar case, and expresses surprise that the bees went at the puddle with a buzz of excitement. They felt just as you would feel, dear Novice, should you suddenly discover water ankle deep in your front porch. Friend McCord ought to have suspected something when he found a colony of bees taking out of his bottle six or eight ounces of water per day in March. (Page 131, Vol. 7.) The amount of sugar that can be liquefied with eight ounces of water is pretty large. You followed suit, and your experimental colony became extinct. More recently, as we read on page 58, you have been experimenting again, using a sponge instead of a bottle. You have not told us, I believe, what effect it had on the prosperity of the colonies, compared with others not so treated. How did it turn out? I

venture the prediction that no good was visible. The fact that has the strongest tendency to mislead is that bees will take more candy where water is given. A bee overloaded with water naturally tries to get it off his hands somehow. When we get wise enough, and have our arrangements perfect enough to water our bees just as men water valuable horses, giving just enough to suffice, and at proper intervals, no doubt the cause will be benefitted; until then probably not.

Thirst and untimely brood-rearing are, I think, the causes of failure in wintering bees in warm chambers. When we can meet these difficulties successfully, wintering bees in warm rooms is likely to be a favorite method. At present, without water they die of thirst, and with water they drink themselves to death, it may be. The remnant of a colony with damp combs and thinned honey can be preserved for some time in a warm room. Sitting near me, as I write (April 15th), is a hive with a hybrid queen and about 100 bees. They were brought in the 10th of March, and at that time numbered perhaps 500. For the first 12 days only a few of them died; but they reared brood, and, in this last effort to save their ruined fortunes, they exhausted themselves so that they have died rapidly of late.

The whole business of stimulating bees to raise early brood, whether by candy and water, or by flour and honey, is an abomination, I believe. The process of preparing chyme to feed the young larvæ is an exhausting one—and much more so in cold weather—and the result is that the old bees are used up a month earlier than they ought to be. After they are gone, the colony falls behind the others that have not raised brood; or, perhaps, dwindles and perishes. The true policy I imagine to be to make the bees supremely comfortable, and to see that they have sealed honey, not only enough to keep them from starvation but enough to keep them from the *sense of poverty*. Then, if they raise a little brood it is well, and if they choose to postpone it till warm weather, just as well. During this warm winter, every black and hybrid colony I have—unless very weak, or queenless, or cursed with a leaky roof—has been rearing brood. My solitary Italian stock did not raise a single larva until along in March. They had only about 1,000, April 1st; but, by April 13th, they had surpassed nearly every colony in the yard in the total amount of brood raised. Let us save the vitality of the bees until it can be expended with the largest results.

I have been experimenting with bunches of capillary tubes to hold a supply of water for a caged queen and bees, but attain to nothing but failure as yet. The water all dries out in a day's time. I am impressed with the idea that moisture not mechanically in the condition of water can be contrived for the use of our queens and bees that go by mail. Some vegetables contain three-fourths of their weight of water. Possibly a tin vial corked with a bit of sponge and filled with minced raw potato or apple would be a help to the little voyagers. You ask me about a honey-bearing corn. I think every acre of our immense acreage of corn might be made to yield a good lot of honey just as well as not. I have the matter mentally booked as the very next thing to work for; but the fear of getting too many irons in the fire restrains me at present. Is there not somebody else that can find time to take the corn plant in charge?

My late clover plants most of them perished last winter, and I shall have to fall back on this spring's planting. Fortunately I have a pretty good stock of seeds. I didn't just know whether clover would bear to be littered for protection or not. I found out to my sorrow that it is one of the most particular plants in this respect. The warm spells, and repeated freezing and thawing of last winter would have killed a great part of them any way; but it is clear that more would have survived if I had not scattered corn stalks over them. Melilotus, alfalfa, and yellow clover endured both the winter and the covering; and, what seems remarkable in a foreign annual, Italian clover where entirely unprotected lived through, but every plant died where any covering was over it.

To say good bye with, let me tell you of the best and cheapest self binder for GLEANINGS, or any other magazine. It is a carpet hammer and a paper of wire nails.

E. E. HASTY.

Richards, Lucas Co., O.

Thanks, friend H. I am prepared to endorse some of your ideas on water for bees, but not all of them. The colony to which I gave water in a sponge, as well as candy, is all right, and it did not dwindle at all; but I did not give it any great quantity of water. If we can supply water, pollen, and sugar just about as they come from natural sources, we can rear brood at pleasure, at any time of the year; but I admit we often do harm instead of good, in this kind of artificial helping. I am glad you tried the bunch of glass capillary tubes; I have many times studied over it, but concluded it would be likely to do as you say. So it seems that although a mulch is a benefit to strawberries and the like, it is not necessarily so with all of the clovers.

FRIEND JONES, AND A SKETCH OF THE WAY HE IS RANSACKING THE ENTIRE FACE OF OLD MOTHER EARTH AFTER THE BEST HONEY BEES.

PALESTINE.

DEAR FRIEND ROOT:—As I am on a trip through the Holy Land, to examine the bees, and import some, I thought I would drop you a line about *holy* bees, or the bees of Palestine. I am now sending some of my party, or rather some of my guides and several muleteers, with bees across the country to Jerusalem, thence to Jaffa, where they are to be shipped to Cyprus, to Mr. Benton, who has charge of them until I return to Cyprus. I shall try in future to give you a description of them, or rather perhaps send you some of the bees of the Holy Land. I have got some from Jerusalem and various other places in Judea, some from Jaffa, some from east of the Jordan and Dead Sea, some from Damascus, and some from Mount Lebanon and other places. I am determined to get them safely to Canada, so I can test their qualities. I have secured enough, I hope, so there will be no mistake about my getting some home alive, and, if I was not sanguine about their good points, I would not go to the great expense I have to secure them. They are very handsome bees, fly much farther for honey than ours, and fly wonderfully fast; in fact, I found bees an incredible distance from their hives.

When you get away east of the Jordan and Dead Sea near the desert, where sometimes there are no hives for twenty miles, you can easily tell the distance they go for honey. I have also found some very fine honey plants, and am trying to get the natives to save me some seed and send it to my agent at Jerusalem, who will forward it to me.

The flora of the country here is very different from that of America, and is also very changeable; especially from Jerusalem east to the desert. I don't think this country equal to America as a honey country. Some of the natives claim that the bees of Palestine are far superior to any others, as they are *holy* bees, and endowed with wonderful knowledge and powers. They have some very distinct peculiarities, and are probably as pure a race of bees as now exists. I am wonderfully pleased with their appearance, and, if they prove as valuable in America as I anticipate, I shall not be sorry for my large expenditure, which has so exceeded my expectations that I had to cable home from Jerusalem for \$400.00 more, to carry out the project. But as the guide has sent on our pack animals and says we must start, I must close. I hope this will reach you. It will be posted at Jerusalem or Jaffa. I will write again when I have something besides a saddle for a writing desk. I hope to be back to Canada by the first of June.

D. A. JONES.

May God speed you, friend Jones, in your explorations for the benefit of the bee-keepers of the world. Give us more of just such notes as this one, for I value it, and somehow I rather think we all do, far more than a studied article. Give us just such sketches of real life, written on the saddle; and if you want more help, we will try to furnish it. We place to your credit \$10.00 for the above letter.

MY FIRST ATTEMPT WITH BEES.

No. 1.

HAVING worked for an experienced bee-keeper for the last three seasons, I considered myself sufficiently posted to venture in the uncertain business "on my own hook."

Having heard of a hundred swarms that were to be let out on halves, I went to consult my old employer as to the propriety of my taking them. After talking over the matter, we went to work and figured up the amount of material necessary for hives, sections, etc. I then made a bargain for having them cut. We then figured up the amount of honey that the bees would be likely to make, and the amount that I would be likely to obtain for it. After subtracting my estimated expenses from my estimated profits, we concluded that it would pay me. I then went to consult the man who owned the bees, and made a bargain to take them.

The bees, however, were in charge of a man who had had them on shares for the last year, who lived about 15 miles distant. I then went back to my old employer, and offered to work all the following day for him, providing he would go with me to examine the bees, which offer he accepted.

On the day following my work, we started, and arrived about seven o'clock in the morning. We asked the man having charge of the bees as to their condition, and were informed that they were in excellent

condition; also that he had had two large swarms the day previous, but had not noticed them until it was so late and chilly that he could not get them into hives. In the meantime, he led the way to where the bees were. We found a small swarm on the back of a hive completely chilled. Next came the two swarms which were on two corners of a rail fence, and, as we should judge, the bees from about twenty swarms. We then went and examined the hive, and found, to our infinite surprise, that the bees had surely swarmed. We came to the conclusion that they had not only swarmed, but swarmed out by the wholesale, some leaving nothing at all in the hives, and some leaving the queen with about a dozen bees. Out of about two hundred swarms, we found 40 left.

We now wished to know the cause of this, and so asked the man, and were informed that some of them were not set out until the 12th of April, this being the 14th. We then inspected the place where they were wintered, and found a room about 10x12, with no chance of ventilation, as I could see, and you may imagine the odor of the air, which was so sickening that we could hardly bear it. We concluded to try to save the bees on the fence. So we got some hives with honey in them, and put the bees in, in the best shape we could.

We then started on our homeward journey. I now felt that if this was bee-keeping, it was not what it was "cracked up to be," and made up my mind that hereafter I would look for more certain business.

R. J. D.

CRITICISMS SUGGESTED BY APRIL GLEANINGS.

IT is not fully recorded that Mrs. Dunham's *fdn.* will not sag without wire in our latitude, is it?

I shall wire my frames. Foundation is taking its proper place in bee-culture.—The Growler has a good occupant this time. A man's worth in business is shown up by what he does, and success is at a premium in business estimation everywhere; but the thing is open to any one.—Doolittle's observation about introducing queens gives me some new thoughts, and reasonable ones.—About stealing illustrated ideas: Taking that view, what shall we denominate our literary effusions? The thoughts of others impress us, and, under like impulses, we retint their expressions, shading their ideas with touches here and there, imparting a chiaroscuro suggested by our own natures. Well, whose are they then? and must we run all about in the corridors of our minds to see whose name and superscription hangs over these expressions, and give credit after credit?—Marking the queen: good; can you do it?—Our Homes: If Mr. G. K. W. can not believe the drone theory, will he accept the proposition that an egg purposed by natural surroundings to hatch a worker bee can be changed and hatched out a queen? But somehow I am impressed that his mind is not like the old woman's, whom I once told of having seen flying fish. She blurted the lie in my face. I think G. K. W. but jokes. How can a man shut his eyes and disbelieve the testimony? A true history of any man's inner life will move the emotions of many a fellow-being. None but Jesus ever taught to give good for evil, and make of it a fair exchange!

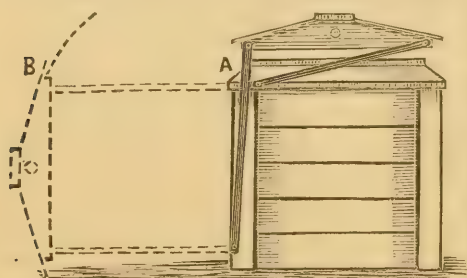
WM. L. GORDEN.

Shreveport, La., April 19, 1880.

ROOFS TO CHAFF HIVES.

SOME VALUABLE SUGGESTIONS FROM A "ONE YEAR" PUPIL.

ALTHOUGH I have been an A B C scholar only one year, I could give in quite an experience; but I will not impose on your good nature to that extent at this time. I want to call your attention to an improvement—as I know it to be by experience—on your chaff hive cover. And first I would like to know why you pitched the roof towards the entrance, since it throws the water down in front of the hive. I am making mine to throw it to the sides which seems to me to be correct. My improvement consists in the manner of hanging the cover. It has always bothered me to know what to do with the frames of comb and bees when I take them out of the hive for examination, etc. I have tried setting them on the ground, but that is too rude and dirty; I also made a portable rack, but it was too much trouble to carry it about; so after studying the matter over, I hit upon the idea which you will understand by the accompanying drawing.



COOPER'S IMPROVEMENT.

You will notice that the cover is hung to the hive by two wooden strips at either end, pivoted to the cover and hive so that the cover may be raised and thrown off to the side with one hand; in fact, with one finger, so nicely is it balanced, leaving the other hand to carry any thing necessary. Then, the strips being the proper length, the cover will be held just the right distance from the hive to form, with the edge of the hive, a perfect rack that will hold all the frames that you want to remove. Your cover too is always in its place ready to be replaced on the hive without having to hunt it or even stoop to pick it up. I made the two side pieces of the frame of the cover long enough to come flush with the edge of the hive. Make the strips of strong wood $\frac{1}{2} \times 1\frac{1}{4}$ inches, and of the necessary length to hold the cover the distance before stated. Pivot the strips with $1\frac{1}{2}$ inch wood screws to the projections on the cover, and to corner posts of the hive, as you see by the drawing. Try hanging one and see if you will not find it as convenient as I do. J. W. COOPER.

Salem, Ind., Mar. 5, 1880.

I too, friend C., have felt the need of some good place to put the frames when I lifted them out, especially the first one; and I agree with you, too, that if we have an implement for the purpose it is often not at hand when wanted. I presume I open hives most in the evening, as I happen to walk about among them, and I seldom wish to take the time to go after a smoker or tools. I have rather objected, of late years, to hinging covers, because it is often unhandy to have them hinged, and they sometimes get

broken, just by being hinged; but in the past few weeks we have had some very heavy winds, and the covers to the chaff hives have gone off flying, even those covered with tin. I told the boys I guessed it would not happen again, but it has happened several times, and, in one case the cushions were drenched with rain. I presume your device would keep a tin cover, at least, in its place, and then the convenience of always having a place to set the combs from the upper story, where they would not get blown over would be quite an item. Perhaps some will like the contrivance and some will not, so they might be prepared and sold with or without the hives. We make the roof with the eaves as we do, because the siding, or rather the poorest pieces of siding, will then make the roof. Whereas, if we turned the eaves the other way, it would not. The matter has been often talked about, but I can not find that the bees are often much inconvenienced by the drip.

FRIEND THOMSON'S STORY.

HOW THE BEES REMOVE THE WATER FROM THIN HONEY, ETC.

I SAW an article in April No. of GLEANINGS, p. 154, headed "Feeding Sorghum to Bees." It seems that the writer has fed it to his bees quite freely, and he gives his plan of feeding. In his closing remarks he says, "We don't think that our bees expelled any of the water on the wing between the troughs and the hives; every thing kept dry. When fed very thin, it was thin in the hives." Now, I would like to wager my old hat against his old hat, that he is very much mistaken in his observations. Again, I would like to wager him a barrel of good winter apples (that is, if we should happen to have a good crop this year), that the syrup was quite a bit thicker when stored in the hives than it was when taken from the troughs. I think you know, and I am very sure I know, that bees do expel the water from very thin liquid sweets, while on the wing. I think that I can prove it satisfactorily to any one who has a mind to try it.

Perhaps I would better tell how I came to be so very wise. Well, it happened in this way: We had an early frost last fall, which killed off nearly all of the flowers. This, of course, put the bees on short rations from the fields. As the weather became very warm after the frost, the bees were out in large numbers in search of stores. They soon discovered a nucleus swarm that was rather light in bees, and they pitched into it, and would have cleaned it out in short order, had I not been on hand to take care of them. I took a blanket and threw over them, and poured water on it. This seemed to dampen the ardor of the robbers. About this time, an old bee man came along and said, —

"What are you doing there?"

Said I, "I am trying to stop robbing."

He replied, "When my bees get to robbing I feed them."

"Feed them?" said I, "What do you feed them?"

"Sugar and water."

"Sugar and water? Why, Mr. Root says in GLEANINGS, if you feed sugar and water to bees outside of the hives, it is almost sure to start robbing."

"Yes, if you give it to them too thick. I make it very thin, just sweet enough so that the bees will

work on it, and I never have any trouble with it. It keeps the bees busy and out of mischief."

"Well," said I, "here goes for sugar and water then."

So I went to the house and got a quart fruit can, and put into it about $\frac{1}{2}$ lb. of sugar, and filled it up with water; took a piece of board about 8 inches square, and cut creases in it a la Root, with my knife (I have no buzz saw), inverted the can on the board, and carried it out and set it on a box. The bees soon found it, and took to it just as naturally as ducks do to water. The way the bees carried it off was astonishing to me. It was just anxious fun to stand there and watch them. They kept coming thicker and faster and more of them, and soon the can was hid by them.

All at once, something seemed to say to me, "Come, old boy, what are you standing there 'gawping' in that way for? Don't you know that you have got that too sweet, and when that is gone there will be a shower of lightning around here, and it will be too hot for you and all the rest of the folks?" That started my big boots, and the way I flew around might have been a caution to young folks, if there had been any of them around. I happened to have some more bits of boards handy, and, my knife being sharp (it always is), the creases went into those boards "quicker." Then I rushed into the house after more cans, tumbled on a basket of clothes and fell on my nose, got up on my toes, seized the cans and out of the door "I goes," and soon had 3 more cans ready for business. I put two table-spoonfuls of sugar in each can.

While arranging the cans on the stand, I felt something wet strike my hand. Going to rain, I thought; but, looking up, I saw not a cloud; it was just as clear as could be. Soon, I felt it again. What does this mean? said I; and, looking again, I saw some fine spray falling. Soon I discovered that it came from the bees. There, you greedy fellows, I said, you are loading up too heavily. You take more than you can carry, and are throwing it away. After watching them awhile, I saw some of this spray fall on a board, and it made tiny wet spots, but soon evaporated. Then I began to have a kind of hankering to know what it was that the bees were throwing away. So I went and got an oil-cloth table-spread, and spread it on the ground under the bees, and soon had enough of that spray to get a taste of it. (Now don't laugh; you know that Prof. Cook tasted of the liquid from the tree louse. He was in search of light, and so was I.) How do you suppose it tasted? Some would say, "Sweet; of course." Not a bit of sweet about it; it was pure water, and nothing else, according to my taste. There, said I, that is the way the bees evaporate their honey, in part at least. Now, if Mr. Oren will take a stand some 15 or 20 feet from his feed troughs, and have the troughs between him and the sun, and look under the bees as they fly for home, I think that he will see plenty of spray falling.

Friend Root, I wish that you or some one who has the tools to do it with, would analyze the honey sack, and try to find out how the bees separate the water from the sweet, or the sweet from the water. It seems to me that the sack is a sort of laboratory or filter.

One point more as to the way the bees act when fed very thin feed in the hive: They fill themselves as they do when they take it from the feeder out-

side, go out, take wing, expel the water, and return and store in combs. I wish you would try it, and see if your bees do as mine do.

Now if you think this (or any part of it) will be of any use to the readers of GLEANINGS, use it; if not, "chuck it into the waste basket." C. THOMSON.

Brighton, Mich., April 8, 1880.

PAINTING HIVES INSIDE.

A PRETTY STRONG PLEA IN FAVOR OF SO DOING.

IN reply to Bro. G. J. Flansburgh, in Vol. viii., p. 175, I would say that my bees wintered as well as I could wish, for I did not lose one, and you know that a year ago last winter $\frac{3}{4}$ of the bees died, or at least they did in our part of the State. I could not say in regard to the inside painting, as I only had part of mine painted inside, and they were chaff hives, and were left on summer stands, while those in single hives were put in the cellar. I have not used any division board, or anything on top of my hives. I leave the honey board in, with some empty boxes on, and have not lost one in the last two winters.

I had one swarm that would not stay in their hive, though they had it almost full of honey and brood. They came out for three successive days, and settled, and each time I put them back. Finally I took one of my newly painted hives (it was hardly dry inside) and set the combs in it, and tried them in that. That was the last of their swarming.

I like the hive painted inside for two or three reasons; first, they are so much easier to clean, and the bees keep them neater inside; in cold weather, if frost collects and melts as it does here, it will run out and hardly leave a damp spot; and, last but not least, the bees do not daub them so much with propolis.

JAMES PARSHALL.

Union Valley, Mo., Apr. 13, 1880.

FINDING QUEENS IN STOCKS SUPPOSED TO BE HOPELESSLY QUEENLESS.

ALSO A HINT ON THE CONSTRUCTION OF QUEEN CAGES.

THE last time I wrote to you, I said I had something strange to tell you. Perhaps you remember that you sent me a tested queen which came in very bad order and died. You sent me another which arrived in fine condition, and after keeping her caged in the hive 3 days, I turned her loose and the bees balled her. I shut her up again, and when I next opened it, she was dead. I am sorry I did not try to remember every minutia, but I did not think it necessary then. I will state, however, what I do distinctly remember. It was about the 15th of December when I received her. My bees had been queenless for more than 2 months. They were the most docile bees I ever handled, and did not need a smoker. I had looked through the hive often in Oct. and Nov., and know there was no queen, for my little son had killed her. I released the second queen I got from you, after she had been in the hive, caged, 3 days, the weather being cold. I had left the cage in the hive, and, while I was trying to catch the queen again, many of the caged Italians crawled out of the cage, and many of my black bees went into the cage; so I could not separate them but put the queen in again, and put the cage back into the hive. I opened the hive again in a few days, and opened the cage, but could not find

the queen. I looked until I was sure she was not in sight (there were some behind the water bottle), and then shook the adhering bees off into the hive and gave a more minute examination, and found her fastened in behind the bottle, dead. I closed the hive in despair, and did not open it again until the middle of February, when brood rearing had well started. I was going to try an experiment. An old bee-keeper was at my house not long since, and asserted that bees more than 16 days old could not make a queen. I opened my hive, and to my bewilderment, I found plenty of eggs, larvæ, capped brood and plenty of young bees just hatched. I examined and found an Italian queen as fine looking as any I ever saw.

You have always beaten me in the strange things which I have discovered, but I don't think you can this time. Perhaps you think the queen you sent did not die, and that I was mistaken. I know it was a dead queen I saw, besides, that decision will be against you, for I am sure the young bees are hybrids, and you proposed to send me a tested queen. The bees were so young and so ill (against you again) that I could not fully satisfy myself as to their purity, but I intend to ascertain, and will let you know.

Again the same old "bee-man" said that bees will steal eggs from another hive, and make a queen. I thought perhaps the caged queen might have laid some eggs in the cage, and the bees might have got one; but fertilization would have been almost impossible, for I feel sure there had not been a drone within 5 miles of me in 2 months previous to the 15th of Dec. Now how will you account for it?

Cubot, Ark., March 16, 1880.

B. F. CATHEY.

I should say, friend C., that there were two queens in the hive in the first place. You destroyed one, and introduced another, and there were still two. Another explanation might be that a small swarm swarmed out, and clustered on this hive, and the queen was allowed to crawl in. Such things often happen in the winter, when the weather is warm enough. A weak hybrid swarm might have come from the woods, if there were none near you. We quite often find queens in our apiary when, according to the "slates" there should be none. As we have several reports of queens getting lost in the manner mentioned, cages should always be made so that no corners or places are left where a queen or bee can get wedged in or caught.

NOVEL DISCOVERY IN NATURAL HISTORY.

BY PROF. A. J. COOK.

A paper read before the Agricultural College Natural History Society, on Friday evening, April 23.

WHEN Hamlet said, "There are more things in heaven and earth than are dreamt of in your philosophy. Horatio," science had scarce put aside her swaddling cloth. Now the prince would say, "There are more things in earth alone than a Yankee could guess at, though wide awake." Yet these wonders, which science is so rapidly unearthing, seem to grow none the less, though discovery be so active, if we may judge by the revelations of the recent past. The last year, and even the past few months, have shown unusual activity in scientific discovery.

It has long been known that wonders are accomplished in vegetable growth, during the almost perpetual sunlight of the sub-arctic summer. This fact incites Dr. Siemens to try the effect of electric light on plants. He finds it equally potent with real sunlight. He supplements sunlight with electric light, keeping the plants bathed in light for 24 hours in each day, when lo! the growth is doubled. This proves that plants need no resting period. The practical bearing of this fairly makes one's mouth water. Just think of strawberries of our own raising by the first of June, and then on till late in July.

Prof. Wolcott shows us that those curious non-descripts, the old trilobites of the paleozoic world, so long thought apodal, were well supplied with excellent feet, and by thin sections of the fossils themselves proves it. A startling discovery in geology! Physiologists have just demonstrated, contrary to all past teaching, that the scrotal cavity is already lined with the peritoneum before the descent of the organs which are to occupy it. Thus the old inexplicable view of pushing the peritoneum in advance is pushed aside. Physiologists have also shown that the uterine mucous membrane is a decidua vera, not only at parturition, but at every catamenial.

But the most curious discovery comes to us from Rev. Dr. McCook of Philadelphia, whose researches among those wonders of animal life, the ants, have become famous the world over. It is he who has confirmed the wonderful discoveries of Linnaeus, in reference to the agricultural ant of Texas, which were long thought, because of their very marvelous and unique character, to be creatures of an active imagination. These ants not only construct cities with paved streets, but they build roadways, clear land, and sow grain, which they have transported often for a considerable distance.

This late discovery of Dr. McCook has to do with an ant which peoples New Mexico and Colorado. The immediate point of Dr. McCook's researches was "the garden of the gods," the nests of the ants being excavated in the stony crests of low ridges, which run through this mountain girl paradise. The nests themselves are a veritable labyrinth, made up of various chambers, connected by galleries, which extend for several feet into the friable sandstone. The carving of the chambers is usually smooth, though the ceilings are left rough. This roughness is no matter of accident or carelessness, but is fashioned purposely, that the tiny feet of a most wonderful living store-house may bear up their large burden of sweet nectar. This store-house is truly a unique among created things. It is simply an ant whose abdomen has lost all semblance of its former form and structure, and become a capacious reservoir for liquid sweets. Even the abdominal viscera, now useless, to this inactive stationary being, have been snatched away by ever frugal nature. The only muscular development needed would be that of the legs which bear up this sack of honey, and that necessary to drink down and pump up the honey as it was received from or yielded up to the others of the household, and therefore little else is found. The sack is the size of a large pea; all the rest, less than a pin head. Each nest contains 10 chambers, and each chamber 30 of these live honey bags, making 300 of the latter in all. Besides these there are other hundreds, yea thousands, consisting of the lords, ladies, soldiers, and laborers, peculiar to all ant communities. Dr. McCook now has a colony of these curious insects in

confinement at Philadelphia. He feeds them sugar, and finds that they thrive even in confinement far away from their native home among the rocks and the mountains.

The worker ants procure their food at night. This consists of nectar from a species of oak galls. Upon our common elm, *Ulmus Americana*, we frequently meet nectar galls, caused by the irritating presence of plant lice, *Pemphigus ulmicola* (Fitch). The lice live within the gall and secrete the sweet nectar, which is greatly relished and much sought after by bees and other sweet-loving insects. Nor do we wonder, for it is very pleasant, as I well know by actual test. Do you wrinkle your eye-brows? Well, I have taken it right from the gall, while you all have first allowed the bees to bear it in their stomachs to the hive, and store it in their combs. That is all the difference.

Whether the oak galls of Colorado are similar galls, resulting from the presence of lice, or whether they are like our more common oak galls, the result of irritation from larvæ *hymenopterous*, I am unable to say, neither am I advised, whether the nectar is a secreted product of the galls or of the enclosed insects.

The method of meal taking among the ants is not unlike that often seen among the bees in our apiaries. Worker bees are often seen to extrude honey from their mouth-tubes, which is sipped up by the queen or other worker bees. In the same way this vitalized nectar-pouch furnishes food to the other ants of this anomalous family.

A highly developed brain enables bees to construct a wonderful wax receptacle for their honey. Specialized individuals, with curiously developed bodies, makes such extra construction unnecessary. We can but wonder if it was not the lazy bidders of this old time ant community, the indolent hangers around the street corners of their rock home, that were, as a result of this do-nothing habit, made over into something useful, and so well suited to their tastes. This may hint towards a possible use, in the future, of human bidders. In fact our big fat keepers of peanut stands are not widely removed, even now.

The worker ants are very solicitous about the welfare of their organized store-houses; for, if, as often happens upon disturbance, one of the ant-bags loses it hold and falls from the ceiling to the floor of the formicary, a worker ant at once lays hold of its fallen brother and drags it to its former position. This must be a truly herculean task. It would be like a man climbing a precipice, carrying a ton's weight on his shoulder.

The natives of New Mexico have evidently a keen appreciation of the sweet things which nature has put within their reach and are quick to appropriate the same. They use these nectar-holding ants for dessert at their banquets. To catch their method, just remember how you eat grapes. You take them between your thumb and finger, press them till the skin breaks, when the delicious pulp slides down your throat, much to your gratification. Now replace with your mind's eye the grape with one of these live plump ant-bags, and your imagination shows you just how the savage of New Mexico takes his after-dinner delicacies.

We have a doctor in our town, who is not only learned and skillful, but he is greatly devoted to the microscope, and has been of no little benefit to the boys in their researches, giving his time and instruments freely at

any time, for their advantage and improvement. Well, this good friend of mine (I trust he will pardon this) frequently stops me on the street and tells me of some new achievement with the microscope, with such a string of long, hard, "jawbreaking" words, that I am sometimes almost tempted to think he has learned them by heart, and rattles them into my ears just on purpose to astonish me at the extent and profundity of his learning. While reading the above from Prof. Cook's address, especially the forepart of it, I was tempted to feel in the same way, only I know the address was written for the college boys, who, I presume, know all those words, and I know too, I think, that neither friend Cook nor the doctor would use words on purpose to mystify. I hope all the rest of you understand them, even if I do not.

ANOMALIES IN SCIENCE.

IS IT ABSOLUTELY NECESSARY THAT A QUEEN SHOULD MEET THE DRONE, TO PRODUCE WORKER EGGS.

EDITOR GLEANINGS:—In your remarks in answer to the article of J. Chapman in March GLEANINGS, p. 118, you say, "My conjecture that a queen might even produce worker bees without fertilization is, if I am correct, still in accordance with law," etc. Now, I have a case of that kind. In the winter of '78 and '79, in early Jan., we had a mild spell for a few days; snow was melting and bees flying; so I concluded I would examine some of the hives. The second one I opened had a very nice Italian queen. The hive was an American, and you know they are side opening and you have to take all frames out in front to get to a back one. I hung the frames taken out before I came to the one that had the queen on, on a rack, and before I disposed of this one, I missed the queen, and could not find her any more, although I looked the combs over several times before I closed the hive. I wrote inside "Look for Q." One of the combs had a patch of young brood, larvæ and eggs, about 1½ or 2 in. in diameter. After this the weather was cold, and I did not look again before late Feb. or early March, when I found that space of brood stuck full all around the edge with torn-down queen-cells, and a young queen; the queen was small and dark, although not black. In early April following, a friend of mine from Posey county, this state, paid me a visit. He keeps a few stands of bees and likes to look at them, so I told him I would show him a young unfertile queen; but when we found her, she was of good size and nice looking, and had considerable young brood and eggs. This was at least from four to six weeks before any drones appeared. As I did not at the time of the occurrence intend to write an article about it, I did not make any notes, consequently I can not give exact dates. This queen produces hybrid bees, while the former produced Italians. If you have any remarks to make on the above, let us have them. JOHN HESMER.

Evansville, Ind., Mar. 17, 1880.

Thanks, friend H. It is possible that some strong colony in your neighborhood, in the woods perhaps, had drones, and that your queen found a day warm enough to fly out and meet them; but still I think, with you, that it is quite improbable. So many cases of this kind have come under my notice, that it seems to me to indicate strongly the possibility of the point I have suggested.

CALIFORNIA AS A BEE-KEEPING STATE.

ARTICLE NO. 7.

IT is raining to-day very freely. The past winter has been an extra favorable one for Southern California, as the rains have come just as near right as they possibly could have come. Farming as well as bee-keeping depends mostly upon the amount of rain. During last season we had a sufficient amount of rain to have insured quite a respectable amount of honey, but the first part of the season was cool, and when the weather did turn warm we had the hot simoon, or East Wind, directly from the Arizona desert. This wind is so hot and dry that it withers nearly every green shrub or plant as quickly as they would be withered or scorched by a flame of fire. We have seen whole corn fields present the appearance of having been scorched by flames. Then again, we have seen a strip perhaps two or three rods wide (more or less) killed dead, while on each side the corn was still green. We had those hot winds last season just frequently enough to dry up all our honey crop. We had the pleasure of being caught in one of those East Winds or sand storms as they are called. The whole atmosphere is impregnated with sand so that it is impossible to drive a team or see where you are going, so we laid by in a small grove of timber. Mr. Wilkin had some 30 stands of bees destroyed in a sand storm, by the sand's drifting into the entrances and up among the combs, and finally blocking up the entrance, and thus smothering the bees. Those simoons are terribly trying to a person's constitution. So you eastern bee-keepers can see some of the disadvantages of bee-keeping in California. We only have the sand storms in the valleys running east and west, but the hot winds affect the whole country. I am located now in a very desirable situation, above the track of the sand storm and overlooking the Sespe and Santa Clara valleys.

Southern California has the advantage of all kinds of climate, and that, too, within a very few miles. An eastern man should live here about two years, and perhaps longer, before he could suit himself in a locality, and become sufficiently acquainted with manners, customs, and all phases of California life to make a selection for a home. I confess that, on the whole, I am well pleased with California. The country is comparatively new, and many things about it that are wrong will be righted as the country grows older. Now, Mr. Editor, please excuse the above and some of my other articles, as I find that there is a general inquiry from many parts of the East about California, and my object is to give as near the truth as I possibly can, and at the same time answer the questions so that they will be interesting to all.

The past week I have been busy looking over the bees, hiving swarms, superseding worthless queens, etc. I find it poor policy to keep a poor queen at any season of the year. Good stocks are swarming and storing surplus in the supers. But, owing to the past season's being so poor, every apiary that I have heard from contains quite a proportion of superannuated or worthless queens, and in many cases the bees themselves are superseding their queens. Still I prefer to raise my queens from selected stock, so am taking the matter into my own hands. We do not expect to commence extracting until May, and

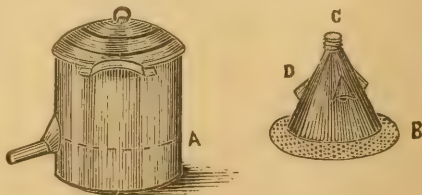
the object now is to increase all we can safely, and get all into good working order by the time extracting commences. In the majority of apiaries we have a good supply of ready made comb, so we can increase very rapidly by keeping all of our prolific queens breeding up to their full capacity, and also supplying our new swarms with ready made comb. There will be but very few new hives required this season, as there were so many made last season that were not used, and, taking the country through, at least 50 per cent of the old stocks have died. In this apiary, we lost 30 out of 130; some lost as high as 75 per cent, and some lost none at all. E. GALLUP.

Santa Paula, Cal., April 3, 1880.

AN IMPROVEMENT IN WAX EXTRACTORS.

FRIEND ROOT: I think it is time I should write you a letter, and send you one of my wax extractors. I have been manufacturing them for the last three months, and have supplied all my bee-keeping neighbors with them. The one I send you is only a model. I put copper bottoms to the larger ones to fit any sized stove. I have been selling them at \$2.25, which pays very well, and all say they work like a charm. To use them, take off the screw top, pour in some water, screw the top on again, put in your wax, put the cover on, and then hang something on the spout to catch the wax. A small shallow bucket is what I use. Well, what I wish to know is, what do you think about it? I have been keeping bees for five or six years, and have had a great deal to learn; but when I was bothered about anything I would hunt up my back numbers of GLEANINGS and find something to suit my case, and then go ahead rejoicing. GEORGE HORNING.

Elizabethtown, Ky., Feb. 16, 1880.



HORNING'S WAX EXTRACTOR.

Above we give a cut of friend H.'s wax extractor. It is simply a tin can as shown, with a cover fitting like the cover of a tin pail. Inside is an inverted funnel, shown by itself on the right. This funnel, at its lower edge, is just large enough to slip into the can, and is securely soldered to the sides at a point just below the spout. It follows then, that anything poured into the can will all run out of the spout. Now the space below the funnel is for generating steam, and to pour in the water for this purpose we have a screw cap at the top of the funnel. At D, are holes, three in number; and, that the wax may not fall through into the steam generator, each one is covered with a hood. The apparatus is completed by soldering a ring of perforated tin just above the spout. The machine is ingenious, and I hope friend H. may sell a great many of them.

Heads of Brain,

From Different Fields.

HANDLING VS. DISTURBING BEES.

I NOTICE, on page 132 of GLEANINGS for March, that you ask the question, "Do the bees you handle and look at most gather the most honey, or those you seldom disturb?" It seems to me that there is a difference between "handling" and "disturbing," and that a distinction should be made. Bees, as well as other animals can be handled, and, if we give them to understand that they have nothing to fear from us, the handling will not disturb them; but, of course, this requires skill in the operator. It is this skill which goes largely to make the success of the apiarist, for it is often called into use. This is especially the case with those who raise bees or queens for sale, for this necessitates frequent handling. May it not be true that gentleness in the bee may be encouraged and developed by frequent and gentle handling by the bee keeper, at least where possibility of improvement is not sacrificed to the desire for imported queens? All kinds of other stock are susceptible of improvement, and why not bees? My own custom is to raise a large number of queens each year, and carefully select the best for next year's breeding. Of course, this necessitates frequent examinations of the hives and nuclei containing the young queens, and I have come to the conclusion that the effect of careful handling is beneficial rather than otherwise. The queen which I have selected for this year's breeding is very large and vigorous, an excellent layer, and her bees are very industrious; yet both queen and workers are apparently indifferent to being handled. In spite of their quiet disposition, they are very watchful against robbers. If we can produce bees which are not disturbed by being handled, it will be many points in their favor.

A. B. WEED.

No. 75 Bagg St., Detroit, Mich.

A NEW INDUSTRY: FURNISHING BUILT OUT COMB.

I have been making Simplicities for my own use for three years, and thought I had enough to supply my bees this season; but my neighbors seem suddenly to have become convinced that old box-hives are not the thing for either bees or honey, and they have so pressed me to accommodate them that I have sold nearly all the hives I had made up. Now I am fearful I will not be ready for new swarms. Fortunately they bought all my bees too, excepting 8 colonies. I never lose any bees in winter, and am sorry for you gentlemen of the North, who have to confine your little servants to the lower story, and tuck them up in chaff bed-clothes to keep them from freezing. My winter preparations consist in seeing that they have 50 lbs. of honey, and sliding the hive back until the entrance admits but one or two bees.

The chief drawback here is that most of our honey is too dark to be readily sold in market. Would it pay to cause the bees to devote their energies to making combs on wired fdn. for the market? How much would such frames of comb be worth per hundred, in all wood frames (your make)? and how much in metal-cornered frames? Would you like to inaugurate such a trade?

H. A. MOODY, M. D.

Longtown, Miss., April 13, 1880.

I should be very glad to see such an industry inaugurated, friend M., but supply and demand will have to fix prices, and get it started. We offer combs built out on wires, in metal-cornered frames, for 30c. each, as you will see by our price list. Now, if anybody wanted to buy, how low could he do it? Friend Given's machine is about what is wanted for one who undertakes to do this, if he will make them to work a little more satisfactorily than the one he has sent us.

BEE CULTURE IN OLDEN TIMES.

I was born and raised among the Green Mountains in Vermont. My first lessons in bee-keeping were taken some 44 years ago. Father having a favorite young apple tree, the bees selected it as a nice bush on which to settle, and, the tree not being large enough to support their weight, I was rigged with bonnet, veil, and mittens, with coat sleeves and pant-legs tied down, and was sent to hold the tree upright, while father got the hive ready,—an old straw hive. Three swarms settled upon this same tree that season. I was also sent up a ladder held by father against the ends of the limbs of an apple tree, to take off and bring down a swarm of bees, which I did successfully. When it was found out that the boy could handle the bees, I had to help hive nearly every swarm. Father kept a large apiary for those days. He manufactured and sold the straw hive. We used for surplus honey a box holding about 20 lbs., put upon the top of these straw hives, and supported by putting clay mortar around the hole in the top of the hive, and pressing the box into it. One of these boxes full was considered a good yield from a hive in a season.

WM. H. WHITCHER.

Bloomington, Mich., Apr. 12, '80.

A CHAPTER FROM REAL LIFE, BY AN A B C SCHOLAR.

I went into winter quarters last fall with 17 stands. I lost 6; 4 of them died with the dysentery, and 2 of them starved to death; so I have 11 to start with this spring. The other evening as I was taking a look at my hives, I noticed the bees crawling around on the ground in front of one of the hives, and soon found out what was the matter with them. I overhauled all of them and found 2 more that had completely consumed their stores, so I had some feeding to do. I made a syrup of sugar and filled glass tumblers, tied a cloth over them, and inverted one over each cluster. Right here, I learned one lesson in feeding. These 3 stands, fed in the way mentioned above, were kept from starving, and that's about all. They seemed to just fly out of their hives, buzz around awhile, and then go back. They had no pollen, and they would not gather any, while the others were packing it in by the peck. It just struck me that I was not feeding fast enough. So I took a frame out of each hive, filled it with syrup, and hung it in the hive. They soon had the syrup packed away in the center of the brood chamber, and the next day they were bringing in the pollen as fast as any of them.

ELIAS BERG.

Cicero, Ind., April 19, 1880.

Why, friend B., you ought to—I came very near saying you ought to have a good shaking, for your cruelty in not looking into those hives, before the poor little fellows were starving and starved. What would be said of a man who put his pigs in a pen, and

waited until they were dying, before he went to look at them. I will tell you what to do; get up and give yourself a good shaking, and then, after this, fix your bees with a great plenty of stores for winter, a great deal more than they need in fact, and root out your besetting sin of procrastination, just as the old deacon did (see page 184, April No.) with his hams.

Friend Root:—I have been in the A B C class a little over a year, and though I have kept silent on a back seat, I have not been idle, I assure you. How could I be, with GLEANINGS for a companion? In our Grange we sing,—

"Have a work that is worthy, thy life to employ;
And oh! above all things, on this side the sod,
Have peace with thy conscience, and peace with thy God."

I have often thought that the above expressed your condition of mind or you could never survive the torrents hurled upon you by the growlers and fault-finders.

THISTLES NOT DANGEROUS WEEDS.

We have a rank-growing thistle here in western Iowa that blooms profusely until long after frosts. I do not know whether it is the one under dispute or not; but it is a very harmless weed with us. During the war, a number of farms here were not tilled, and the thistle took possession. One farm in particular (my brother-in-law's), lying in the creek valley, grew thistles 6 to 8 feet high, and so thick you would walk a mile further round, rather than venture through. They ripened and stood over winter, were harrowed down, plowed under, and never gave any more trouble than other weeds. I will send you some thistle blossoms as soon as they come out. They will keep fresh a long time after being cut.

This winter past was very hard on bees, owing to a scarcity of good honey; but bees are now building up very fast. M. M. FAY.

Council Bluffs, Iowa, May 6, 1880.

I strive for the condition of mind your beautiful little verse describes, friend F., but I do not always keep it.—Do not be too severe on the "growlers;" some of them are my very best friends, and I trust they *all* will prove friends eventually.—The thistles we have here behave about as those you describe. Send a leaf and flower to Prof. Beal, and we shall then know more about it.

BRICK CANDY OUTDONE.

Excuse the assertion, friend Root, from an A B C scholar, but we find a serious objection to laying those bricks on top of frames; it necessarily raises the quilt out of place, which draws it from the edge, letting the cold air down into the hive. Take the common brood frame, nail a thin board on one side, then pour in your candy; let it harden, and you have feed and division board, all in one; and they will not only eat it, but get so fat on it that they will pull off their coats, and hang them up in the same frame, in the shape of comb, as some of ours have done.

MAKING GRAPE SUGAR CANDY.

Friend Maring seems to be in trouble. It is said that an ounce of experience is worth a pound of theory, and so I found it in making the candy. If the grape sugar is barely heated, just liquified and no more, it takes but a short time to harden; but, if

it becomes very hot, no matter if you do set it away to cool before stirring in the flour and then the sugar, it will be several days before it is hard. By the way, you have stolen my plan of melting it (in or over hot water). I think you said it must not be scorched, so I put the sugar in a pan, over a pot of boiling water, keeping it stirred so that none of it gets too hot, and it is all right.

THE SIMPSON AND SPIDER PLANTS.

How are your spider plants? It appears to be a hard task to get them to "hurry up." I have about one hundred Simpson plants growing, that we found in the timber not far from here. Please state through GLEANINGS how the spider progresses,—the ups and downs of it—that we all may know whether it is "too much sugar for a cent."

MOLLIE O. LARGE.

Millersville, Christian Co., Ill., May 1, 1880.

I have given both plans you mention, friend Mollie, and the one you seem to prefer is the one I gave first. I suggested the brick, because the bees would eat it all up; whereas, with the whole frame, they left it in the corners. We prevented the cold draft, by the loose chaff I have often told about.—Thanks for the suggestions in regard to making the grape sugar candy; you see, this is one of those points in which a woman is right at home, and knows just how to do it.—Our spider plants are now growing finely, but we had quite a time in getting them to grow at first; they will be ready to plant out in a week. We have nearly an acre of the Simpson's growing finely, and some of them are fully knee high. We are going to try to have an acre of the spider plants also.

THE CALL FOR QUEENS, AND CUSTOMERS WHO INSIST ON BEING SERVED FIRST.

We have been asking some of our friends to help us supply the demand for dollar queens, and here is what friend H. says:

If I had them I would ship to you queens but have been, like all the rest I suppose, crowded by the brethren. I had an idea it would be so when the mails were thrown open. Like the old turkey hen who sat on 43 eggs, I have been spreading myself, but haven't spread enough yet. I wish the brethren wouldn't get into a fidget all at one time. I occasionally get a letter ordering a queen, with the request to send by return mail the queen or the money. Well, you know how hard it is to part with a few dollars in one's pocket.

W. P. HENDERSON.

Murfreesboro, Tenn., May 7, 1880.

Thank you for the illustration; it really is impossible to meet all of these sudden demands, and I, too, hope the brethren will be as patient at such times as they can. If those who send an order see fit to direct that the money or the queen be sent back by return mail, they have a perfect right so to do; but it is a little severe, and one is strongly tempted, for just this once, to give such orders the preference, and let those who are patient and really entitled to the queens wait. This should not be; the money should be returned at once, and the applicant informed that all orders are filled strictly in rotation.

STOPPING THE JOURNAL, ETC.

"First of May, '83," is what it said,—I mean the yellow label on GLEANINGS. Then I carefully examined all in your notice on the envelope, and thought what a queer man in you are, in such a half scolding kind of way, to solicit subscriptions! Now I wonder if you are not odd or eccentric or something different from ordinary! Well, to begin with, you can consider me as safe for another year; I cannot get along without GLEANINGS. It will pay if one does not keep bees. It is worth all you ask for it to be in constant communication with an honest man aside from a pecuniary point of view.

TRYING PATENT HIVES, ETC.

My experience in bee culture is about the same as that of others who keep bees; I have always had from one to 15 swarms with the exception of half a dozen years. I tried to keep pace with progress and so bought all the patents that came along, and of course failed. Two years ago a friend presented me with a swarm, and about that time I accidentally came across an advertisement requesting all that were interested in bees or honey to send to A. I. Root for sample copy of GLEANINGS. I sent my address, and, in due time, received a copy. I also sent a dollar for A B C and now I have two swarms and am daily growing enthusiastic. And now I find my great mistake, in not having hives and frames of one size. I shall adopt the L. frame, and make the change as soon as swarming is over. Then I shall want honey boxes, etc.

E. H. BARTLETT.

Mt. Vernon, O., May 8, 1880.

I did not mean to be eccentric, friend B., and I did not mean to scold my readers, unless it be eccentric to be in dead earnest in insisting that accounts shall be kept squared up, and that no one shall have GLEANINGS who does not want it. On this account, I have thought best to stop it when the money runs out. Neither am I an honest man, friend B.; I have only tried to be honest and fair with you all, and perhaps only God knows how hard I have tried. I have the credit of it, pretty generally, and I get many letters like your own, but I know, in my own heart, I come far, very far, from deserving it. Right in this line, a great truth begins to unfold itself. It is that humanity, the people of the world, are always ready to give any one more credit for real striving in this direction than they actually deserve. Yet how often is the world called cold and uncharitable.

RENDER UNTO CESAR THE THINGS WHICH ARE CESAR'S, ETC.

I was very much surprised on reading in this month's GLEANINGS what McDougall says concerning Mitchell; for it is my opinion, if Mitchell is a humbug, McDougall is one too, as he is selling Mitchell's hive, using his circular, and selling his book, by another name. "Mitchell's Forty Years Among the Honey Bees" (which, I have been informed, is "borrowed thunder"), and McDougall's "Secrets of Bee-Keeping," are the same book, only McDougall has considerably reduced Mitchell's enormous yields of honey. I have not those books by me now, but, if you have not examined and compared them, and wish to do so, I will get a copy of each and send you. I send you, by to-day's mail, Mitchell's Directory. I also send you Mitchell's "Hints to Bee-

Keepers," and McDougall's "Thoughts for Bee-Keepers," which you see are the same, and describe the same hive. McDougall sent me word not long since, "I have discarded all patents on my hive."

I have 19 colonies of Italian bees in the Mitchell or McDougall hive, just as you please term it, all of which wintered on their summer stands, without the loss of a single colony, and are now in splendid condition, and are busy storing away the sweets of the land, in which this vicinity abounds.

H. L. GRIFFITH.

Sumner, Lawrence Co., Ill., May 10, 1880.

That is right, friend G.; talk out. We want Mitchell to have his due, by all means. I had noticed the similarity between the McDougall and Mitchell pamphlets, but, as the former was so much nearer the bounds of truth, I thought likely it was the original, and Mitchell's was the copy; for Mitchell is notorious for copying everything and claiming it as his own; in fact, his adjustable hive is a complete copy of Adair's, long, idea hive. Will friend McDougall please stand up and tell us briefly, how it comes that his writings and Mitchell's are so much the same thing? I half suspect it is because the patent right men, a few years ago, all of them almost, had about the same story, which, if I am correct, mostly belonged, in the first place, to H. A. King, of the American hive. There are so many wide awake people now, that it is hardly safe to undertake to steal *ideas*. Even Inger—but I guess I won't say it, after all.

PAPER SLATES.

I see in May GLEANINGS, p. 233, that Rufus Morgan, of Bernardo, Cal., calls for a "water-proof paper" on which to record the condition of the hive during the season. I inclose you a sample of one which I have used for years. When exposed to the weather, I paint both sides; when used under cover, only one, as you see. The composition is "plastic slate", and is put on with a brush. The sample has but one application; two make a better job. It dries in a minute, and I find it invaluable. I use postal cards that have passed through the mails. A slate pencil, or crayon, is used to write; the former is preferred, as it makes a lighter stroke.

My bees have wintered splendidly as they always do. No starving, dysentery, cholera, spring dwindling, or depletion of any kind. They are now "booming."

J. W. JOHNSON.

Shelbyville, Ill., May 10, 1880.

Our friend sends us one of his slates, made on a postal card, and, sure enough, it writes nicely with a slate pencil. I have used something similar made with a paint used for making blackboards, but we did not like them so well as the real, stone slates we use now.

TO WATER BEES.

Use a small bottle upside down, standing on a piece of glass. The water won't run out only as the bees use it. The glass will be dry except in the heat of the day, and then very little water will escape by expansion. A 3 oz. bottle will last several days. The glass need not be larger than a half dollar.

J. H. CREIGHTON.

Chillicothe, O., April 23, 1880.

FRIEND "GOOD'S" GOD SUCCESS, AND "GOOD" RESOLUTIONS.

I am more than ever convinced that the tenement chaff-hive is the "boss" for wintering and springing bees. I have this spring transferred 59 colonies of bees from the box to a chaff hive of my own make. I find the bees in my tenement chaff hives are in a much better condition than they are in unprotected hives. How do you like your tenement chaff hive by this time? I would like to hear from friend Underhill and others that have the tenement hives. I have wintered 67 colonies without the loss of one, and my bees are all strong and in good condition.

A great many men are going to embark in bee culture in my neighborhood. I may have been getting too many subscribers to GLEANINGS for my own good, but, come to think, it will be all right after all, for I am going to devote the most of my time this summer to rearing "dollar" queens, and if I have neighbors and friends that keep bees, I will have a better chance to sell my nice queens. I have an order from friend Wm. Clement, Malcom, Iowa, for 59 "dollar" queens. I. R. GOOD.

South West, Ind., April 26, 1880.

I am glad to know you are doing so well, friend G., but our tenement hive has hardly given us the best of satisfaction. Perhaps it was because we did not put a good strong colony in each compartment, large enough to keep the whole structure filled with bees and well warmed up. Besides that, we have not found it as convenient to manipulate, as the ordinary, single chaff-hives.

NEW SWARMS ABSCONDING.

On the 22d inst., I put a large swarm of Italians in a ten-frame Langstroth, gave them a frame of brood and eggs, and all went on well until the 25th inst., when they came out and went to the woods. They left in the hive 5 pieces of new comb as large as a man's hand. The hive was new; i. e., it had never been used before, and had been painted a year or more. I have failed to account for their strange conduct; can you account for it? I shall not trouble to give brood to any more swarms, as I am now satisfied that, if they intend to leave, brood will not keep them from going. J. B. MITCHELL.

Hawkinsville, Ga., April 26, 1880.

Be not hasty in your conclusion, friend M.; although we have occasionally a case on record like the one you mention, where a swarm absconds leaving a frame of brood, the number of swarms that have been induced, by its use, to stay after having repeatedly left an empty hive, is strongly in its favor. A swarm that has lost its queen will stay with brood, but they are sure to leave very soon without it. I presume, of course, your frame contained unsealed larvæ, as well as eggs and brood, for that is the most important part of it.

BEE CANDY.

We have tried your receipt for bee candy, and were entirely successful. We added, however, $\frac{1}{2}$ lb. of maple sugar which, we think, made it a trifle more relishable to the bees. It appeared to me that the bees have to be "taught" to eat it, although the entire teaching seems to consist in inducing them to take the first mouthful. To do this, one of the warm days last week I took some sweet clover hay, and placed dishes containing the bee sugar upon it.

The odor of the clover soon attracted the bees, and almost the entire amount was carried away the first day.

LOOK OUT FOR MICE.

Our friend Van Ness, who handed in his report of wintering bees for the winter of '78-9, to the Michigan State Convention, did not meet with the same success this past winter. He packed them all snugly with straw as usual, and it made a fine home for the mice, which gnawed through the matting, ate the honey, and raised sad havoc generally.

Croton, Mich., Apr. 19, '80.

GEORGE DAY.

It seems a little strange that some should entirely fail in getting their bees to take the candy, while others succeed so well; but, if we look back, it was just the same in feeding rye meal, the same with introducing the fdn., and, to some extent, the same with even the extractor and section boxes.—It is a very important matter indeed, to have all hives so made in the first place that no mouse can possibly gain a lodgement anywhere. Our tarred paper in the bottom of the chaff hives is intended to repel mice by its odor, as well as to keep off the dampness from the ground.

BOOK OF RECORD FOR BEE-KEEPERS.

I see you want an idea for a book of record for the apiary. I don't know that my idea is a *good* one, but I have kept a record of work done to each stock of bees, receipts and expenditures, and also an aggregate account of debit and credit with the whole yard, for a number of years. I use a book of about 100 pages, size $3\frac{1}{2} \times 5\frac{1}{2}$ inches. Each page is numbered at the top, and each page number corresponds with the number of a hive. Each hive has a number in large figures, say $2\frac{1}{2}$ inches high, painted on the back of each one, and the hives are set hexagonally in the yard, so that, by taking one or two steps either right or left, when standing in the rear, I can see every number. My book, I carry in a little box, along with my smoker, fuel, knife, etc., and when I do anything to a hive, I note it with date. In the back part of the book, I simply keep a Dr. and Cr. account in single entry, under the head of apiary account for 188—. It requires no great skill, and not much time, and gives me much satisfaction; as I can look over my book at any hour, and know the condition of every hive, without having to make a special examination. With the pencil which is attached to the book by a light string, the "conditions" are quickly "noted." Sometimes my fingers are slightly soiled by propolis, and my book does not always look like my books in the office, but it is legible, and answers the desired end well.

BEES DYING IN A CELLAR.

I want you to answer me a question: I'll explain; last Nov., I put most of my bees into a well ventilated bee-room, *dry* and *dark*, where the mercury did not range 8° either way from 45° . They were in a good, healthy condition, with plenty of honey gathered early in the season, as we got almost none in the Autumn. They did not have a fly during the winter. When set out this month, I found quite a number dead, with plenty of honey. They all had good blankets over them, with $\frac{1}{2}$ in. square sticks under them on top of the frames, for passages from frame to frame, 3 sticks each. The bees were found almost all on the bottom board, *dry* and *clean*,

with no mold or dampness, and the frames of comb were clean and bright. The front entrance of the hives, $\frac{3}{4}$ x 14 in. were left open, but, of course, were found closed by dead bees. Now the question is, what caused their death? During the winter of '78-9, I wintered the same hives, in the same room, with like conditions, with the loss of one stock; this last season the loss was 50 per cent of the whole, and the balance are weak. F. W. CHAPMAN.

Morrison, Ill., April 20, 1880.

We formerly used a book made as you suggest, friend C., with a page for every hive in the apiary, but it was so inconvenient for me always to have the book on hand, that I used the queen cards and slates in preference. Painted numbers, with large figures, are very pretty and handy until the hives get moved about by selling, swarming, etc. When this has been done so that they really mean nothing, it seems to me rather to give the apiary an air of untidiness. To avoid this, it has been suggested that the numbers be painted on tin labels, and simply hung on the hives.—I cannot give any reason for the colonies dying, under the circumstances as you describe them, but perhaps, if the hives were where I could examine them, I might find some trouble. I very much dislike to think that bees do die, when we can see nothing wrong.

HONEY-DEW.

I have seen honey-dew on basswood, maple, oak and pear. I have seen it on maple in such abundance that it would drop off the leaves. I think honey-dew is on all trees, whose blossoms produce honey. H. F. BRITTON.

Wallingford, Vt., April 22, 1880.

PARKER'S MACHINE FOR FASTENING IN STARTERS.

I must tell you that the little machine for fastening foundation in the section boxes, described in March GLEANINGS, has been used by Bro. J. F. Lafferty and myself for 12 months or more. It was Bro. Lafferty's idea. I wonder how long Mr. Parker, of Defiance, O., has used the little machine.

Moonshine, Ill., April 19, 1880. WM. ST. MARTZ.

It may be a little singular that two parties should both invent precisely the same thing, but it is by no means impossible. Devices quite similar were mentioned in GLEANINGS, several years ago, and, if I mistake not, friend P. had his in use considerably more than a year ago. Will he please tell us about it?

A NEW TOOL FOR THE APIARY.

Now I want to tell you to add to your price list a cut of the little three-cornered scraper, with claw on the end of the handle. Then you will have the best tool known for cleaning hives, lifting frames, and other uses in the apiary. The same is used for scraping writing off the heads of barrels and boxes.

HOW THE A B C MAKES TROUBLE.

The smoker came safe, and last of all the blessed A B C. I read it until 10 o'clock, and could sleep none that night. It made me lots of trouble. Such a fix as it did get me into! 50 Langstroth hives, 50 more, 12x12 inside by 15 deep (no frames), very pretty little hives; nicely made; too good and too many to throw away! The Gallup frame will just fit them, but is not deep enough. Can you not write me a little bit of a letter and tell me if I can use

them by framing in some way? The box oo good. Only think of the mischief I have done, all on account of not reading and posting myself as I should have done. I have made 1,000 section frames by hand, but never any more. My bees are doing well; 74 hives are eating about 8 lbs. of dry rye flour a day, and about 4 lbs. of grape sugar and honey in a syrup. Please answer and oblige—

Leavenworth, Kan., Mar. 24, '80. WM. TANNER.

Thanks, friend T. You will see that I have profited by your hint already, and the box scraper is already in the list.—I am very sorry the A B C made you so much trouble, but you know trouble sometimes works out good finally. The best advice I can give is to fix your odd hives so a Simplicity will set over them, and then you can use them until you are ready to discard the others entirely, and so gradually work all your bees into the regular sized frames.

DO BEES GET "LAZY" IN TROPICAL CLIMATES?

I enclose an article clipped from a newspaper. The statements in this article have often been presented as facts. As you have subscribers in Australia, if I mistake not, you might draw out the facts from your correspondents, and I think it would interest your readers to know just how much climate affects the habits of the honey bee.

Reese, Mich., April 12, 1880.

J. H. GRAY.

CURIOUS FACTS IN NATURE.

Some curious facts from the world of nature crop up occasionally, which are well worthy of consideration. For instance, it has been proved that the bee may under certain circumstances, turn out to be any thing but the pattern of industry it is proverbially supposed to furnish. Australian colonists have from time to time taken out swarms of bees to their adopted land, in the hope of deriving practical benefit from the profusion of flowers with which the whole country abounds. For some little time the newly imported bees maintained their food in the comfortable hives provided for them, and supplied the colonists with far superior honey to that collected by the indigenous honey producers, the "melipones." Presently, however, the hives were discovered unstocked at the end of autumn, notwithstanding the long summers in the northern parts of Australia, and it was found that the bees entirely neglected to lay up a stock of food, as was their wont. Though the bees increased and always regularly tenanted the hives, no honey was brought home. It soon became evident that, finding the perennial summer of the tropical parts of Australia afforded them an abundance of food, without intervention of long winters, the bees forsook their old habits, gave themselves up to a life of happy indolence, and no longer took the trouble to convey their superabundant supplies to the hives prepared for them. In short, there being no winters to provide for, the bees gave up the practice of storing.

The above may be partially true, but I think it is, in the main, a mistake. Our Australian subscribers have not so stated it, as yet; will they please tell us a little more definitely, whether they have observed any such tendency?

RINSING THE HIVES WITH SALT WATER, ETC., TO MAKE NEW SWARMS STAY.

I have heard that it is best to rinse out the bee hive with salt and water before putting in a young swarm; so I thought I would ask your advice about doing it, providing a person has no comb honey.

Berea, O., April 23, 1880.

GEO. PFALTZGRAFF.

The idea of rinsing the hives with salt and water, or water sweetened with honey, is old and abandoned now. I remember well when my mother washed out the hive, and

how I helped her to take care of our first swarm of bees, but that was more than 30 years ago. I think it has been pretty well shown that bees would much rather have a dry, clean hive, and I know of nothing that would be likely, in my opinion, to have any weight with them to induce them to stay, unless it was some empty combs, or, better still, a comb containing brood, as we have so often mentioned on these pages.

I took my bees out of the bee-house on the last day of March, all alive except one out of 30. Last year, I lost over half. To-day bees are carrying in pollen rapidly. Of the swarm which died the hive contained a dead mouse.

SMOKING BEES WITH MULLEN LEAVES.

I must tell you of an invention of my own—a smoker which “knocks” all your smoker-fellows in the “shade”. I have been in the habit of smoking dried mullein leaves for quinsy, and, being at that industrious occupation a few days ago, I discovered a swarm being robbed; I went for them with my clay pipe filled with mullein leaves, and you ought to have seen them “git”. Right here, I wish to ask one question. This swarm which was being robbed, I put in the bee-house a few days ago, and after keeping it in there about 3 days, I put it out on a different stand from the original. Some time after I put it there, I saw the queen on the corner of the alighting board. I put her on the bottom board, and she went into the hive. Now, what was she doing there? Sunning herself?—*I shall not patent my smoker.*

PREVENTION OF AFTER-SWARMING.

In the “Report of the Department of Agriculture” for 1867, I find these words:

“Those who depend on natural swarming for an increase of stocks, are often troubled by over-swarming. They would be glad to prevent more than the issue of at least one swarm yearly from every hive. There is one sure way to prevent this. So soon as a swarm issues, remove the hive from which it came to a new location some yards away, and place the hive into which the new swarm has been put directly where the parent hive stood. The principal part of the mature bees will thus find their way into the new hive, and that will be very strong, while the old hive will contain few except young bees, and, though it will soon be populous, no after swarm will issue.”

The writer says this has been tried in hundreds of cases *without a failure*. Now, I would like to enquire, is this so? If it is a fact, it is worth money to me; for honey is what I am after instead of bees to die in winter. I had a swarm issue last year which had a clipped queen; I removed it to a new location, and gave the stand to the new swarm, and the parent stock swarmed again in a few days.

“Bee-Seeingingly” yours,

Embarrass, Wis. A. W. WILLMARTH.

The only objection which I can see to your smoker, friend W., is that people who see you going about with a clay pipe in your mouth *might* think that you smoke tobacco. —Your plan of preventing after swarms is generally successful, as you will see from the remarks in regard to it in the A B C. That it is not to be relied on always, you have yourself demonstrated. It does nothing more than to prevent swarming by weaken-

ing the colony; and reducing their numbers by any other method so as to induce them to destroy their queen-cells, will do just as well. As the Italians pick up much quicker than the common bees, this plan is less reliable with them. In fact they will swarm at any time and with half a chance, if honey only comes in continually.

FLORIDA.

I started last spring with an apiary of 30 stands, increased by natural swarming to 79, lost 4 during the winter, have therefore now 75, and shall aim to increase it during the coming season to 125 or 150 stands.

HOW TO DEVELOP ONE'S HOME MARKET, ETC.

Last season, my bees made some 3,000 lbs. of most delicious honey, which was extracted by patented extractor, and about $\frac{1}{2}$ of it was put up in Mason's patent jars, $\frac{1}{2}$ gal, quart, and pint, and the other half in odd barrels and tin cans, such as I happened to have about the place. So far, I was successful; but, while I sold some 700 lbs. put up in jars, at paying prices, in this neighborhood, I could not get a fair offer for it in Chicago, New York, or Boston, and consequently have the larger portion on hand, which is rather discouraging, especially as I mean to increase the business this season. The last offer from a Chicago house was $9\frac{1}{2}$ c. *there*. I evidently made a mistake in putting it up, as the honey itself was pronounced as *first class*, and strictly pure, by those who offered the price named, and similar ones.

Can I, from this warm climate, safely ship comb honey, put up in section boxes? If so, should I make $\frac{1}{2}$ in comb and the other half in extracted honey? Should I put up the extracted honey in barrels or in tins? At what price could you furnish me with barrels? and what is the freight to Jacksonville? At what price could you furnish me tin, already cut in proper sizes, and crimped ready to be soldered by me here? Have you an apparatus for marking boxes and barrels with address of the buyer? I mean cut letters or some revolving letters which I understand are now being used.

These are a good many questions to be asked of you by a stranger, but I feel sure you will pardon me for the sake of the good cause; I am living so far from any one with whom I could talk profitably about these matters, and I know of no one who has more experience and ability to advise than yourself.

Lake Maitland, Fla., April 4, '80. R. G. MAYO.

I think you can ship comb honey without trouble, but the only way to decide the matter will be to try a case and see. If your extracted honey sells best in jars, by all means melt and put in jars. Pretty much all the questions you ask, friend M., will have to be answered by actual tests.—We could not furnish barrels or cans at less than our advertised prices, and it seems to me it can never pay to send barrels so far made up. You surely have timber that will make them, and if you have not coopers, have some of your people learn the trade. It is much the same way with tin cans; we can furnish you the tin, but the tools required to make cans for honey are so cheap and simple, your tinner should surely be able to make them for you. The pint and two quart honey pails, we can probably furnish cheaper than any one can make them, unless they do them in very large quantities.—We have

seen the different kinds of stencil plates you allude to, but we much prefer marking cup and brush. "W. O.'s" liquid blueing makes a very plain and indelible mark, and a five cent paint brush will do to make the letters, although it is a little large. Trim the point with the shears, and practice on a board until you can write plain. I am always glad to get these friendly talks, friend M.

A FAVORABLE REPORT FROM SORGHUM.

I will have to tell you how my bees are doing. Excuse me if I brag a little, for I cannot help it this time. My bees are far ahead of what I expected at this season of the year. I had to give some of them more room this week, and I found one colony with 6 combs almost full of brood. That was all they had, and they were building queen cells. I gave them empty combs quicker than you could say "scat." I think the cause of all my good luck is the way I wintered, and plenty of flour and sorghum. I will not want any grape sugar this season, but look out for an order for 1,000 section boxes and some comb fdn.

S. H. LANE.

Whitestown, Ind., April 17, 1880.

AN ENTHUSIASTIC A B C SCHOLAR.

Hurrah for the Italians! I have a large swarm of the yellow beauties which came off to-day, and the drones are flying thick this afternoon. I fed rye flour all winter. I look for another swarm of Italians in a day or two. My blacks are doing well, but are not nearly as strong as the yellow fellows. I brought all through safe.

J. C. WHITEHEAD.

West Point, Ind., May 5, 1880.

HYBRIDS THREE FOURTHS ITALIANS.

I want to Italianize. I have one fine, pure, Italian queen, and one nice, large queen whose workers are hybrids. Now, will it do as well to raise the drones from her as from one that has been purely mated, starting the queen cells from the pure one?

Barry, Ill., April 7, 1880.

A B C SCHOLAR.

If you want bees for honey only, I suppose you will get just as much by the course you suggest, as by having pure Italians, but your bees will, as a general thing, be much crosser to handle. Some of our friends think it "awful," I know, to advise a taint of common blood instead of all pure Italians, but I care a great deal more about honey, and vigor and energy of stock, than I do for yellow looking bees, or gentle ones either. To be sure you cannot think of rearing queens for sale, from any such stock as you describe.

WORKER VERSUS DRONE FDN. FOR STARTERS.

Mr. Root:—The sections received from you are the finest I ever saw, but the fdn. I would have liked better, if it had been worker size. I thought your thinnest fdn. was made with the new 3 in. rolls, worker size, as the sample you sent me; so I wasn't particular to order worker size. I used drone starters last season, but the bees very often built worker comb below the starter, and the worker comb looks much the best in sections.

R. I. BARBER.

Bloomington, Ill., May 2, 1880.

When honey is coming in with sufficient rapidity, the bees will assuredly store more in drone comb than worker; your bees built worker below the drone fdn., because honey

was coming so slowly they did not want to build drone comb. I agree with you that the smaller cells do give the comb honey rather a finer and prettier appearance, but then comes the question as to how much honey we can afford to sacrifice, for the sake of looks. I think the experiments now being made will soon decide many of these matters.

HOW MUCH DOES IT TAKE TO WINTER BEES?

You stated in April No., p. 170, that I should report about the 1st of May. I think that is too late, because bees are now working on soft maple and increasing in weight by brood; so I present my report below, as nearly correct as possible. I stated, in the Apr. No., that my bees had then consumed, from Oct. 13th to Feb. 14th, 5½ lbs.; from Feb. 14th to April 10th, they consumed 4 lbs. and 10 oz.; which makes from Oct. 13th to April 10th, 10 lbs. and 2 oz. I weighed 25 swarms April 10th, and found out what they consumed. The largest amount which one swarm consumed was 13 lbs.; the smallest 6½ lbs. Can you give reasons for this difference? The swarms were standing side by side, and were so nearly alike that I could see no difference.

Warren, Pa., Apr 12, '80.

HENRY KNUPP.

I believe the above is about the general average of what it costs to winter bees in good health. A very large colony may consume 15 lbs., but I do not know that I ever knew one to use more than that. This, to be sure, must be sealed stores, not thin, unsealed, watery food. I cannot tell why there is so great a difference, unless it is owing to the quantity of bees, and the amount of brood reared. If I understand correctly, these bees were wintered out of doors, without any especial protection.

A SLOPING ENTRANCE TO CHAFF HIVES.

I mail you to-day a small model of bottom board for chaff hive, such as I am using. I find, in practice, that your entrance in cold weather will get stopped with snow, dead bees, etc., and hence needs more attention than should be necessary at that season. Also, in carrying out dead bees, the hive being warm inside, they will leave many in the entrance, on account of cold outside. This board having a short and slanting passage, dead bees at the entrance will take care of themselves. It can not get stopped up. The model will explain the construction.

N. J. MOSELEY.

Cambridge, N. Y., April 19, 1880.

Your point is a good one, friend M. This winter we reduced the size of the entrances to the chaff hives, by a little chaff cushion, or rather two thin boards covered with cloth, with chaff between them. One objection to these is that they will be soaked with water during wet weather, and we have been not a little puzzled to devise some way of keeping the water from running so readily into these entrances. A slight slant, it seems to me, will do it, and this can be easily accomplished by making the board that forms the central part of the bottom board, taper down to a thin edge, where it projects to form the entrance. I think this will give sufficient slope, and the board above it, forming the covered way through the chaff, can be set in sloping parallel with the bottom part just about as easily as any way.

RED CLOVER QUEENS, ETC.

I have one queen whose bees worked on red clover last season, and I raised 3 queens from her last August. Will their progeny have the same good qualities? If so, I will breed from her altogether this season. She is small and dark, while the bees are very large, and a little shade dark. Shall I use a honey board in two story hive for extractor?

Your busy A B C scholar,

Freeport, Ind., April 22, 1880. GEORGE COLE.

Your young queens will be very likely, some of them at least, to inherit in a greater or less degree, the peculiarities of the mother. Do not use a honey board or anything else between the upper and the lower stories. If your hive is made properly, there is no room for one; for the upper and lower frames should be only $\frac{1}{2}$ of an inch apart. If the queen lays eggs in an upper frame, swap it for one having none. By gradually spreading the upper combs until they become very thick, you will get much more honey with once uncapping, and the queen cannot very well use them for brood combs.

SOURWOOD.

The sourwood is a native forest tree from Pennsylvania, but is by far the most abundant along the Alleghany range. It is of the species *Ericaceae*, and is known also as the sorrel tree. It derives the name sourwood from the acidity of its leaves. The flowers are white and mug shaped, hanging mouth downward from spikes of considerable length. It is a very showy tree, and quite ornamental. It blossoms when 5 or 6 feet high. Seedlings are of slow growth. Suckers, when they can be obtained, often grow 5 to 7 feet in a season, but do not bloom so low as the seedling. The tree often attains the height of 60 or 70 feet. The wood is useful for many purposes, being firm and straight grained. It cannot be excelled for quantity or quality of honey in the United States. H. A. DAVIS.

Moretz Mills, N. C., April 20, 1880.

Thanks. Who will furnish us with little trees? Will the seeds grow, and the trees thrive in the north?

AN A B C SCHOLAR'S MISHAPS.

You may think me like the one you spoke of in GLEANINGS who had too many stands of bees, but I want to ask some questions. Did you ever know a swarm of bees at this time of the year to come out and go off, leaving honey and brood in the hive? I had one that did so last week. Where they went I do not know. I do not think they went in with any of the rest, for there was no fighting or robbing that I could detect.

I began on the 14th of May, 1878, by cutting two trees and transferring into frame hives. I had good luck and got 3 young swarms, but lost one of the old ones by motks. I wintered 4 all right. In the spring of '79, I bought one, making 5, and increased to 12 by natural swarming. They were put into the cellar in Nov., and 5 died, with plenty of honey, and one has gone somewhere, leaving 6 to start with. Now, will it do to put bees in those hives or not?

I must tell you about the swarm I bought; I bought it for a full blood Italian colony, supposing they would not sting so much as the others, but the first time I went near them, they "went for" me lively; so I got my smoker and "went for" them, and thought I had tamed them, but they are just so

yet. I can't touch them without smoke. What would you do with them? How do you tell full bloods from others? Mine have not as many bands as one man's in GLEANINGS. Now don't you think that I have got through Smiley, Growlery, and Blasted Hopes nearly? C. H. ANGELL.

Clarksville, Iowa, April 23, 1880.

Although such absconding as you mention is rather unusual, it is not new with experienced bee-keepers.—By all means use the old combs and hives where your bees have died.—You can educate your cross Italians to behave better, and it would be nothing strange if they should be found to behave better without smoke than with.—I think, friend A., that you will in time, if you keep on, graduate in all the departments you mention. As you learn to rule all these things, including also the cross bees, I hope you will also learn that great lesson of ruling one's own spirit. The A B C you have ordered will give you more light on all the points you have just mentioned.

SMOKE MAKING BEES ANGRY, HONEY BOARDS, ETC.

I have 2 colonies of black bees in movable frame hives. I can open them at any time during the day, take out the frames and examine them. These frames are covered with a honey board which rests on the edge of the hive about $\frac{1}{4}$ inch above the top of the frames. While I am looking at the frames, the bees will gather on top of the frames and edge of hive, but by sliding the board endwise gently along, they will all crawl out of the way so I can close it up quite quickly. Now, I want to ask you how I can get this mat on; it won't do to lay it right on the bees, will it? I have a smoker, but smoke makes them angry. They fly into the chimney and stick to the hot side and seem almost frantic. It takes so much smoke and time too, and as I don't need to use smoke only to get the mat on, I don't like to use it for that. There are no instructions in A B C about putting it on.

LIZZIE H. MCCLYMONDS.

Templeton, Armstrong Co., Pa., Apr. 28, 1880.

Your honey board will work nicely, friend Lizzie, while the hive is new, but when it gets old and every thing is covered with propolis, you will find it next to impossible to use it in the manner you mention. The mat is to be laid gently right over the bees, or rather left with one edge attached, so it can be easily rolled back in place. We often find bees that we can handle better without smoke, and that is why I have advised you never to use a smoker in opening a hive, unless you find, by trying, that you are obliged to use it. It is not often that we find a colony which is made "frantic," as yours are, simply by smoking them.

GETTING THE SIMPSON-PLANT SEEDS TO GERMINATE.

I sowed the Simpson honey-plant seeds which you sent me, in a box on the 24th day of Feb. last, at the same time when I sowed several other kinds of seeds in the same way. The other seeds have all come up including the "spider plant;" but, although there may be 99 different and queer weeds which came up in the Simpson honey-plant box, there is not one as yet which I can identify as the Simpson honey-plant. How many months should I wait for the seeds to germinate? and then how long should I still wait and let the 131 different "queer

weeds" grow together to see which will have the "coarse leaf and branching top, with innumerable little balls, etc.?" Our bees are feasting upon the fruit blossoms now, and we are looking for a rich harvest of sweet things soon. I will not say more, as you never publish anything from Egypt.

JACOB COPELAND.

Allendale, Ill., April 26, 1880.

It is true, friend C., that the Simpson honey-plant seeds are a little fastidious. At first, I failed entirely with all I sowed; but the girls got some leaf mold from the woods, and raised them by the thousands. After they are up, they have a provoking way of dying just about the time you think they are certainly well started. We have failed so many times that I finally gave a lot of seed to our market gardener, and he told me a few days ago that he thought he could furnish me with 10,000 nice plants, for \$25.00. I looked at the plants, and told him I would give it. Now this lot of plants is growing on not over 5 square yards of ground; what do you think of the profits that a man—ay or woman either, who is skillful in the plant business might make? Making seeds grow is one of the fine arts, friend C.

PLANING SAWS.

Can we not get up a combination saw that will rip and plane at the same time? It would be the "trick" for making sections. My plan is to have part of the teeth rippers and part planers. The rippers should be just a little larger than the planers, and have no set in them; while the planers should be a little short, and have a little set. I have no means of testing it, but if it will "work," I would like to have one.

THE COUNTER STORE.

I am very much pleased with the counter store. I find many things that are desirable and that some of us, at least, can not find in our little country towns, and other things much cheaper than we can get them. I think we ought to give you a vote of thanks.

TINNER'S SHEARS.

And now while we are on that subject, can you not get us good, cheap, tinner's shears? I have to carry my tin 4 miles to get it cut.

HAND HOLDS TO HIVES, AN IMPROVEMENT.

I send you by this mail a finger hold as I make them in my Simplicity hives. I like them better than yours for two reasons; they look better, I think, and they are so easily painted. If you like it, and do not see readily how it is made, I will explain.

M. E. PARKER.

Somerset, Ky., May 10, 1880.

The planer saw has not turned out so well as I expected; it cuts too slow, and when it needs sharpening, it is a great deal of work, and finally requires expensive re-cutting, before it can be sharpened further. It also is found impossible to get it to cut stuff to exactly the same thickness, as do planers. In spite of all these drawbacks, however, we find places where ours is quite a saving, for we can make it do smooth, finished work, in places a planer could not reach. Your plan could be tested only by actual experiments.—Nothing can cut up tin rapidly and neatly like a pair of squaring shears, and they cost about \$35.00; but I think I can furnish some tinner's snips, if I purchase

them by the gross, for about a dollar.—The improvement consists in cutting out the wood below the mortice, on a smooth sloping curve. With a proper cutter the expense will be only the cutting away of a little more wood. They will be easier to paint, and, I presume, less likely to decay, as they will not hold water from driving storms as do the old kind.

TONGS AND GLOVES.

Some one has invented "tongs" to lift out frames with; pwhew! I would as soon think of putting gloves on my cat to catch mice with. I recently overhauled and cleaned out the hives of 40 colonies, and prepared them for shipment, and did not get stung once. I used no veil or gloves, and a smoker but little. How is that for good natured bees?

WINGS FOR BRUSHING OFF BEES.

I have never used anything but chicken's wings to brush bees off the combs, and can't imagine what could be better.

ROBBERS,—HOW TO GET THEM OUT OF THE HIVE.

My way of getting robbers out of a hive is to open the top of the hive, and give them a few puffs from the smoker. The robbers will get out on the double quick, and the owners will stick to their combs. Close up then, and close the entrance also so but one bee can pass. If that does not stop the robbing, I go at night, and change places with a stronger swarm.

SURPLUS HONEY; A NOVEL PACKAGE FOR IT.

A few years ago, my brother-in-law, Alfred Brownson, was living in Wayland, Allegan Co., Mich. He procured a hive of bees, and set them on two inverted sap troughs, and put in some boxes for surplus. They worked well, but put no honey in the boxes. On moving the hive the next spring he found they had stored the sap troughs full.

I think I saw an item somewhere in GLEANINGS, stating that Bingham gets honey stored under his hives, but I can not find it again; and that puts me in mind that you say only one man finds fault with leaving out the table of contents. Count me No. 2. After reading GLEANINGS over once, I frequently wish to find some item I have read, and I find it a big bore, to have to go through from one cover to the other to find it.

CHAS. E. McRAY.

Canon City, Colorado, May 10, 1880.

I quite agree with you about tongs and gloves.—The sap trough incident is not only suggestive of Bingham's plan, but also of the one given in the English bee book, recommending that surplus be obtained in American cheese boxes, set underneath the old-fashioned straw hives. The honey obtained under the hives, next the ground, was said to be of extra whiteness and purity. Who is going to develop this idea, and give us "extra, ground-stored, virgin honey?"

"HOW DOTH THE BUSY BEE IMPROVE EACH SHINING HOUR!"

We clip the following from the *Bee-Keeper's Guide*:

A Chinese student at Andover wrote in a lady's album the following version of a well-known poem:

"How doth the little sting-bug
Improve every sixty minutes
All the day.

Go pickee up sting-bug juice
From flowers just got busted,"

HOW AN A B C SCHOLAR USES THE CHEIROGRAPH.

I am a subscriber to GLEANINGS, and also an A B C scholar. I commenced last year with one swarm and increased to 2, but did not get much honey. I have a swarm that I traded for in the winter, but found a few days since that it had no queen. I gave them brood from my other swarms, which set them to work nicely. I sent you an order for a cheirograph when I renewed my subscription. The case was pretty badly jammed when I received it, but I straightened it the best I could and melted it over. Thirty-five copies is the most I could get from one impression. I will send you a sample. I read every word in GLEANINGS and think a great deal of it. But I suppose you will be tired of reading before you get this far.

G. P. HOWARD.

Hilliard, O., May, 1880.

Thank you, friend H. We now put up the cheirograph much more substantially to go by mail, and if you will send us your bill for the trouble it has made you, I will pay it. With the new ink we send you, I think you will get 100 impressions without trouble. I am so much pleased with the specimen of your work, that I have had our engraver make an outline of it, for the convenience of the "brethren."



With a little practice, almost any one should be able to make a pretty and attractive circular, giving rude pictures of the goods they have for sale, with prices attached. If prices change add a postscript. If you cannot draw with a pen, hunt up some smart boy or girl in the neighborhood who can. And right here is a new industry opening for good writers. The pile of letters right before me shows that there are getting to be a good many of them, of late.

"TINKERING" BEES TO DEATH.

Friend Root:—Please send your price list to John Waggoner, Franklin Grove, Lee Co., Ill. He has a notion to buy bees by the pound, and queens for \$1.00, to fill his empty combs, as his bees "gave up the ghost" this last winter,—tinkered to death in my estimation, as he was trying to feed them during the coldest weather we had, disturbing them every day as long as they lived,—a practice I never approve of. I never, if I can help it, open a hive with the thermometer below 40°. My bees (43 stocks) wintered all right, with no loss except one queen, and I found a strange queen on one of my alighting boards, balled, which I rescued and introduced into my queenless stock all right. My neighbor lost a swarm that day, and I surmise that the queen came from them.

SPRING DWINDLING.

Many apiarists have lost all their bees this spring; they starved out, and died off by degrees. They would crawl out with their abdomen all swollen up, and flutter and try to fly, but could not, and they would finally chill and die at the entrance, often a pint a day, until they were all gone.

I also noticed a large fly which the boys call the "Devil's darning needle," catching bees on the wing. They would suck them out in a moment, then drop them and try it over. It took 12 or 14 bees to satisfy the one I saw, and my daughter saw many of them in the middle of the day. The fly is about 2½ in. long, with 4 large strong wings, and is very active.

SHOT GUNS, VERSUS FOUNTAIN PUMPS.

I have read a good deal about fountain pumps as swarm arresters. Now, I use a breach-loading shot gun with blank cartridge, and I have never had a failure with it. Just try it when a swarm tries to go off. Send a puff of smoke up just ahead of them or among the foremost ones, and you will see them turn the other way "mighty sudden." It is the smoke and not the noise.

B. F. PRATT.

Dixon, Ill., May 18, 1880.

"WHEN SHALL WE HANG SHEETS OF FDN. IN THE HIVE?"

On p. 223, of May No., M. Simons, of Brocton, N. Y., asks the above question. I for one would say, hang them in as soon as the bees or hives are crowded for want of room; or, as soon as the outside sheets are full of honey, remove them and spread the brood nest, and hang one or two full sheets (not over that number) in between the brood combs. I have been experimenting on this same thing. Last Thursday, May 13th, I hung a new sheet of fdn., L. size, in the centre of a swarm of Italians in a chaff hive, and to-day, May 17th, I examined them, and found this sheet worked nearly out, and the queen had it nearly full of eggs. I am so well pleased with the chaff hive that I am going to put my bees into those hives. I built one last fall, and put two swarms into it. They are the black bees, and now they are storing honey from fruit blossoms in those one pound sections. I started in the winter with 14 swarms packed in chaff, and they have wintered nicely. I have my bees, frames, section boxes, and fdn. all in readiness for swarming time.

Harmony, N. Y., May 18, 1880. B. G. WATKINS.

CHAFF PACKING.

Bees in this section are generally in good condition, even those that were wintered on summer stands without protection. My Italians were wintered on 5 frames of sealed honey, contracted by division board, the space behind the board being filled with chaff cushions. The covers and second stories were taken off, and replaced with pieces of old carpet, and the hives placed in large dry-goods boxes. The hives were then surrounded by dry wheat chaff, except a space of 3 by 4 inches, which was occupied by wooden tubes through which the bees could pass when necessary. A cover was then placed upon the box, and the bees permitted to remain until the last week in April, when the hives were taken out. On examining the bees, I found every frame filled with brood, and hundreds of Italian drones hatched. I then spread the brood giving each colony a frame of sealed honey. Thus I continued to give a frame of honey every two days until the hive was full. My father's bees that were

wintered without any protection are much weaker than mine, and no drone eggs deposited as yet.

MISSING QUEENS.

I never had a better chance to Italianize. I introduced an Italian queen to a black colony two weeks ago. In 7 days, I examined the hive and found her attending to her motherly duties. But she is now absent and the bees are starting queen cells. I was very careful when manipulating them, and do not think I killed her. What is the cause of her absence?

E. J. HINSHAW.

Lynn, Ind., May 15, 1880.

It is quite difficult to say why queens are suddenly missing, as in the case you mention; if the state of the brood indicated that she was lost about the time you opened the hive, it would be fair to presume that she must have been injured or lost while so doing. We frequently find queen cells however, just as you state, without being able to assign any reason for the queen's absence; and, in view of this, they may be regarded, on the whole, as rather uncertain property, even when they have the best of care.

Notes and Queries.

THE ALL-ONE-PIECE SECTION; WHO IS THE INVENTOR?

I SEE the sections, "all in one piece," are attracting considerable attention, and several parties are manufacturing and claiming to be the inventors. See my notice in *American Bee Journal* for 1878, page 176, of these boxes. My application for letters patent on this section is duly filed with the Commissioner of patents at Washington, and if any person knows any just cause why they should not be granted, let him make it known, or for ever after hold his peace.

THOMAS T. DELZELL.

Hersey, Osceola Co., Mich., April 21, 1880.

[After reading this, if one examines the advertisement of Lewis & Parks, and also friend Fornbrook's in the last No., one gets a vivid idea of the rickety condition of the patent office, and of the utter ignorance or indifference on the part of the officials, as to what has been patented or placed on file.]

What causes bees to carry out young brood at this time? [Moth worms probably, if there are but few; if many, it would look as if it was starvation.]

How can you make your bees build straight combs in frames without fdn? [By having each comb built between two old ones; but using fdn. is much the better way.]

Is it safe to put this fdn. which you sent me for boxes, into brood frames for trial? B. BOTH.

Fort Alleghany, McKean Co., Pa., May, 1880.

[The thin fdn. that we make for boxes will be more apt to stretch or bulge; but if a single strip is put along the top bar of the frame, it will not bulge or stretch to do any harm.]

IMMOVABLE MOVABLE-COMBS.

The smoker comes in use the most now, for some of our hives are 5 or 6 years old, and not a frame has ever been lifted out of them yet. Since we have had your A B C, however, we are cleaning them out, although it takes a pretty hard pull to get them.

FRED JUERGENS.

Hutchinson, Minn., May 13, 1880.

"HOUSE-KEEPER" WANTED.

I have a colony of bees (last year's) which has lost its queen. They have honey enough to commence *house-keeping on*, if they had a *house-keeper*. Please send me a queen, if you can, *at once*, so that it may be introduced, and the family resume business again. If you can't send a queen (Italian), please return money, and I will look farther.

Canton, O., May 14, 1880.

D. A. ARTER.

[You should keep better posted, friend D.; Italian "house-keepers" are not usually to be had for a dollar, in the month of May. We have plenty of queens right in the office ready to ship on a minute's notice, but can't sell them for a dollar so early. I hope you may save your colony, nevertheless.]

ASPARAGUS AS A HONEY PLANT.

Bees work right well on asparagus. I have demonstrated that to my satisfaction; and, as it blooms through the entire season, it is a desirable forage plant, if grown in sufficient quantities.

SUGAR CORN AS A HONEY PLANT.

Last season, I raised some sugar corn, and, as it ripened very early, I tried the experiment of raising a second crop from seed ripened the same season. I got it so far matured as to have roasting ears, and I noticed the bees on it continually, bringing in both honey and pollen. There is no mistake in this.

RETARDED DEVELOPMENT OF QUEENS.

Dr. A. P. Coulter, of Marissa, Ill., stated to the writer a few days ago, that he had an undoubted case of a queen's not hatching until the 21st day from the egg; is this possible? Have you heard, or do you know, of similar occurrences?

[The matter of retarded development of the larvae of the bee or queen is a subject just being investigated. Friend Doolittle says that even the egg may remain for some time in a dormant condition, as it were, and then hatch out all right. The whole matter wants investigating.]

SWARMS COMING TO BE TAKEN CARE OF.

You are right in saying that bees will come to a well conducted apiary, for last August I secured one colony in that way, and again, yesterday, May 7th, a very powerful colony of hybrids came, and I have them now on 10 frames of wired fdn., in one of my new chaff hives. It filled the lower part nearly full of bees, and I fear it will test your wired fdn. severely; but we will see.

WHERE OUR BEES CAME FROM.

My "American Encyclopedia" states (Vol. III. p. 50) that bees were originally imported to this country, but fails to state the time when, or persons by whom, they were imported.

HOW TO GET RID OF LIVE DRONES.

I notice that there are a great many drones in the swarm just hived, and, as I wish to rear pure Italian queens, and have cut out all drone brood in the few black colonies I have, how shall I get rid of these fellows? I shall have some nice queens hatching out shortly, and I want them purely mated.

E. T. FLANAGAN.

Belleville, St. Clair Co., Ill., May, 1880.

[Shake the bees, drones and all, out of the hive, and then fix over the entrance either wire cloth or perforated tin that will admit the workers and not the drones. Do this just at night, and, after the workers are all in, scoop up the drones and kill them by immersing in hot water, or in some other way to give them as quick and painless a death as possible.]

SEVEN-TOP TURNIP.

I sowed a little patch of seven-top turnip, during the last week of last Aug., but it froze out last winter. I was sorry about it, for I think it splendid for spring forage.

JOE R. ELLIS.

New Mansfield, Fayette Co., O., Apr. 29, 1880.

[Seven-top turnip, to live over winter, must be sown early enough, and on good enough ground, to make a good strong root the first season; otherwise it will be thrown out by the frost, especially during such open winters as our last. The same is true of the Simpson plant. Get them to make as strong a growth as possible the first season.]

"ACTIVE" BEES.

My bees are very active when they get a chance to rob, I assure you. They act as though they were at a fire, and all depended on haste and numbers. I feel like boxing them, when I see them at it. They are gathering pollen very fast from the box-elder trees.

S. W. PIERCE.

Davenport, Iowa, April 24, 1880.

[I have seen just such bees, friend P., and, if I mistake not, a good many of us have seen them too. After the yield of honey opens, and they get to going in an honest way, try to keep them so that they forget all about the disposition to steal, and grow up straightforward, industrious, "honest" bees. You probably know about that little story, that ends with a "pound of cure."]

BORROWING JOURNALS.

Mr. Root:—You advise economy, and I have been practicing it, possibly in a way you would not advise; viz., borrowing GLEANINGS from our friend, J. H. Montgomery.

DAVID STRONG.

Lincoln, Tenn., May 4, 1880.

[I recommend just that kind of economy, friend S., with just one proviso; and that is, that you do not in the least, in any way, trespass on the good nature of your neighbor. It is very annoying to have one's journal gone just at the very minute he wants it, and I hope you will take good care that such is never the case with any thing you have borrowed. I am glad, for my part, to have every number read by as many people as care to read it.]

GLASS CUTTERS.

I have used one of those cheap glass cutters for 5 years, and it has done well till the other day, when it utterly refused to take hold; so you see I want another. I hope those thieves whom you delight (?) to call "brothers" (?) will let this letter pass unbroken.

G. W. DEMAREE.

Christiansburg, Ky., May 4, 1880.

[They are units in the great stream of humanity, friend D., and as such I call them brothers; but while I love the sinners, I detest the sin as much as any of you, I assure you; and I am just as anxious to have them arrested, not only for our good, but as a kindness to the thieves themselves.]

How would it do to use wire only one way for separators? I don't see why it would not do as well as wire cloth. You could stretch the wire very tight in the place of the tin.

ROWLAND WHITE.

Grand Rapids, Wood Co., Ohio, May 11, 1880.

[The wires would spring aside and be easily injured, unless they were supported and braced by a few wires woven crosswise. Besides we could not use a wire near as light, if it were not woven into cloth. I have made application to several wire cloth

factories, but none of them will undertake to weave just what is wanted. After we get over our busy season, Mr. Gray and I propose to try our hands at a loom to weave wire cloth separators.]

WANTED! THE MAN WHO STOLE "THAT 'ERE" BEE GLEANINGS.

I received GLEANINGS, and also catalogue; but woe to the man who took it from my office before I had hardly glanced at it! Will you be kind enough to send me another?

W. D. SCLIONTEN, P. M.

New Holland, Ind., May 5, 1880.

The bee business is "booming" here in our part of Ind. Bees have been swarming already. There are more orders for queens this season than ever before.

Owen, Ind., May 6, 1880.

J. LONG.

LAZY MAN'S BEE CANDY.

To 4 parts sugar, add 1 part flour; mix with a little water, just as the cook kneads her dough, just as stiff as possible; pack into section boxes or trays laid on paper for a bottom, and set in a dry place till hard enough to handle. I have tried this candy thoroughly, and it is as good as one could wish, and is next to no trouble.

CLIMATIC CORNER.

I would like to see a corner in GLEANINGS like this: Shelby County, Ky., Feb. 27th, elm and willow blooming; March 22d, peaches blooming; 24th, plums blooming; 26th, dandelions and cherries; April 9th, gooseberries; 18th, sugar maple; 22d, apples, red bud, and dogwood; May 4, first white clover. This would give a general idea of our climate, etc.

G. W. D.

Christiansburg, Ky., May, 1880.

[Thanks, friend D., but, after making some of your candy, before it got dry, it soured and rose up like biscuit. Perhaps our girls did not get the proportions right, or it may have been too warm weather. I agree with you, that the bees eat it readily.]

HOW TO IMPORT QUEENS.

Please to tell me, through GLEANINGS, or send me the No. in which it is told, how queens can be imported and the expense? I see that a firm in Italy advertises them in GLEANINGS at \$2.00; whereas you and others charge from \$5.00 to \$10.00 for them. Can it cost \$2.00 each to import them? Even an A B C scholar would like to import, if such a saving can be made. Can't they come by mail? I have searched through A B C, but find nothing.

C. B. CURTIS.

Selma, Ala., May 15, 1880.

[Much has been said in back volumes in regard to importing. Unless you import in large lots, say from 25 to 50, it will likely cost you over \$2.00 each to import. Some of ours, last season, where nearly all of them were dead, cost us 4 times that amount. It is next to impossible to have them come by mail, for they often die when sent in the little importing hives by express. The matter is very simple; get a foreign check, and send for the number you wish. It will be better to have some body receive them in New York, and forward them without any delay. At present, I know of no forwarding house there, I should want to recommend. If you will read last year's journals, you will get an idea of the difficulties in the business. I know, my prices are high; but, after making good those that die, don't lay, &c., I feel quite willing to let somebody else undertake it. None can be got here, as a general thing, before June; hence the high prices before that month.]

RED BUD. SEE PAGE 220.

Friend Root:—I think the red bud will grow and bloom in Ohio. It grows here, and in Kansas, Missouri, and Iowa, very plentifully, along the streams and bluffs. It is not a large tree here, but a large shrub. It blooms in 4 or 5 years. I will furnish any reader of GLEANINGS with seed, who will send me his address and a stamp to pay postage. The seed is ripe in September. Postage is one cent per oz. No one will want more than 3 oz., unless he raises trees to sell.

JAMES BOSTON.

Cincinnati, Neb., May 13, 1880.

ROBBER BEES; HOW TO DISGUST THEM.

Here is something good, for I have tested it, and will warrant it to do what I say. Take some coal tar and spirits of turpentine, mixed, and it will stop the worst case of robbing I ever saw, in ten minutes. Take a brush and put a little around the entrances. It is fun to see them go home like a whipped dog. The bees that belong there will go on about their work.

SAFFRON AS A HONEY PLANT.

I have never seen saffron mentioned as a honey plant. I had a few stalks in the garden, and they were covered with bees.

FAYETTE LEE.

Cokato, Wright Co., Minn., May 9, 1880.

[Strong odors will sometimes drive robbers away, and it has been said that when a bee comes home smelling badly, he will be driven out or killed. I have never been able to verify the latter.]

BEE-KEEPERS AND BEE-LOSERS.

Some time last year, I purchased a Simplicity hive with the bees. I left them on the summer stand through the winter, and fed them with A coffee sugar. They did well. In April, two swarms issued within a week of each other. The first, I hived; the second went back to the old hive 4 times, and at last to the woods. I took the mat off the old swarm for them to go to work in the upper story, but as yet they have not done anything. I find a few dead bees in front of the hive every day. Please tell me what to do, as I am anxious to get a start in bee culture. The weather is very fine, and it looks as though bees should gather honey by this time.

Hillsboro, Miss., May 12, '80. H. W. ABRAHAM.

[Friend A., when you fed your bees A sugar, and built them up, you were a bee-keeper, and a pretty good one, I should judge; but, when you left the mat on until they got so full that they had to swarm, you were not a very good one. Neither were you when you hived the swarms without giving them a frame from the old hive to start with. After two swarms had gone out, you removed the mat, but it was not at all strange that they would not go into the upper story after being twice weakened by swarming. Do you not see that your feeding, without keeping a careful watch on the *inside*, was what made most of your trouble?]

BLUE THISTLE, CANADA THISTLE, ETC.

I desire not to be hasty, but I may say that, for about 22 years, I have had an unsuccessful fight with Canada thistles. At the present, the odds are in their favor. I can cripple them, but they are the possessors of the soil; hence I dread the name thistle. You should know that you are not the only medium through which blue thistle may be obtained. Now I notice there are some who speak of blue thistle as not only harmless, but useful as a

manure. Well, there is nothing and nobody in this world so bad that they have no friends. A thistle that grows everywhere and in every manner of crop must be a nuisance and a pest.

Belmont, Can., May 15, 1880.

S. T. PETTIT.

[If I am correct, the blue thistle dies root and branch, after the second year; if such is the case, it is in no respect anything like the Canada thistle. A few of the plants are now in our garden, but I fear they have all died from the dry weather, in spite of all we can do in the way of watering, shading, etc. That does not look like Canada thistle very much; does it, friend P. ?]

PRETTY GOOD FOR AN A B C SCHOLAR.

I have got through transferring 13 boxes of bees, all in good condition now. I did not lose any through the winter. I transferred 3 box hives for a neighbor on Thursday, the 6th, just in the close of apple bloom. They were very strong. One of the boxes threw off a good swarm on the next Monday, which was just 4 days from transferring. Can you beat that?

A. H. DUFF.

Flat Ridge, O., May 13, 1880.

I am a beginner, this spring, in bee-keeping. I bought 3 stocks for \$14.50. They are black bees. One is in a box hive, and I am going to transfer when swarming time comes. Bees are very forward this spring. My box hive is very full of bees, and they are clustering out to-day. I was in Toledo yesterday, and saw some honey for sale at 18c per lb. It was black and uneven comb, and all candied. If prices are accordingly high all summer, I think I will do well.

J. C. WEBB.

Le Moyne, Wood Co., O., May 8, 1880.

KING BIRDS OR BEE MARTINS.

I beg permission to speak a few words of a certain bird, known in the South as the "bee martin," but commonly called in the North, the "king bird." This bird has proved a dangerous enemy to Southern bee-keeping, and has often caused mischief in the apiaries of Hawkinsville, by destroying the virgin queens on their bridal tour. When killed or captured, the bird can be identified by a small bunch of bright yellow feathers on the top of the head, which, though hidden from view, can be readily seen by turning the feathers in the opposite direction. I have observed that this bird is as common in the North as in the South, and deem it expedient that you warn your readers against it and recommend its destruction, as far as possible. As one of the *boy* bee-keepers, I am,—

CHAS. R. MITCHELL.

Hawkinsville, Ga., May 17, 1880.

AN A B C SCHOLAR'S FIRST TRANSFERRING.

Here I am again. I transferred one of my stocks of bees the other day,—put them in movable frames. It was the first I ever transferred, but I succeeded. It is quite a strong swarm, but it contains no queen, brood or eggs. I tried to get brood or eggs out of the other colony, but was compelled to abandon the attempt. It is impossible to get brood from a box hive.

AUG. TIGGES.

Marathon City, Wis., May 7, 1880.

[Since you succeeded so well, friend T., why did you not go right on and transfer some more, and then you would have brood? You surely could get enough from a box hive to enable them to rear a queen, could you not?]

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATER.

MEDINA, JUNE 1, 1880.

Happy is the man that findeth wisdom, and the man that getteth understanding.—PROV. iii. 13.

PLEASE, my friends, will you make out your orders in accordance with the price list? Remember the clerks to whom your letters go, have these constantly before them, and, in asking for things, if you use the same terms there used, there will hardly be a possibility of a mistake.

I do not see but that I shall have to keep on complaining; packages of queens and other things are coming almost daily without the name of the sender on them. Will you please be kind enough my friends, for your own sake as well as ours, to mark your name and address plainly on every thing you send. If you send me papers, please mark plainly the passage you wish me to read. Remember, these things come so many together that I have but a little time to bestow on each, and I do not wish to seem neglectful of any thing you may be so kind as to send me.

WOODEN BUCKETS AS A SURPLUS HONEY RECEPTACLE.

AN enterprising patent-hive man claims a patent on the idea of inverting a common wooden pail over a box hive, that he may have not only a pail-ful of honey, but also a package absolutely free from drip; if the pail holds water, it will of course hold honey, and then you have the bail to carry it by. Where honey is very cheap, it may answer a good purpose; but the queen would be almost certain to make her way into a common sized pail. The half-size wooden buckets on our 10c counter, being smaller, would be less liable to this objection. Neat wooden covers would be desirable, and there would be no difficulty in making them cheaply. A Simplicity hive could easily be arranged to take 6 of these small buckets at once. Of course, the idea of a patent on any such arrangement is absurd.

A DILEMMA.—One neighbor handed another a dollar, asking him to send for a smoker. For accommodation's sake, our friend took the dollar and sent it, and it was lost. When informed of the facts, knowing that the want of a smoker is often far more than the value of it, I sent one for half price. The neighbor who so kindly sent the money could not well pay the half price, for the whole matter was of no sort of profit to himself, as he did it all solely to accommodate. It was no profit to me, for I furnished the smoker without receiving a copper. I asked the sender of the letter to present the case to his neighbor, and ask him if he thought I should not have at least something for my smoker. Here is his reply:

Inclosed find 50 c., which credit to my account for smoker, for which I now have no compensation whatever. The party I ordered the smoker for says he will not give one cent more than what he gave me, and which I sent to your address, and it shall be the last man that I will accommodate in that way.

Rogersville, O., May 21, 1880.

DR. H. J. PETERS.

Now, shall I let friend P. lose it all? in fact, shall I let him lose anything for trying to accommodate both myself and his neighbor? Shall I, on the other hand, lose it all myself when I was trying my best to do my unlucky friends a kindness? Did I do wrong in sending a smoker without first getting the money? If I had not sent any, how would friend P. and his neighbor have settled it?

MUCH trouble has come from exorbitant charges that might have been saved by a little forethought or consideration. Packages of 1 lb. or less, if mailable, are usually cheaper by mail than by express. Anything too heavy to go by mail must go by express or freight, but, as a general rule, I would not send anything by express that weighs more than about 25 lbs. Packages of 500 sections are often ordered by express, but as they weigh about 50 lbs., our customer is almost sure to be indignant at the charges, and sometimes refuses to take them. On this account, we have been in the habit of disobeying orders, and sending goods by freight; and we generally get thanks for it when the matter is explained. Occasionally, however, we have a customer who knows about it, and expects to pay a large price, but wants the goods in a hurry. In such cases, we get severely censured for not obeying orders. The most of our customers are not acquainted with the difference between express and freight, and we therefore oftentimes hit their wishes, by using our own judgment in the way goods are to be sent. Some may say we should obey orders any way; a few days ago a woman ordered 500 sections by mail; the postage would have cost her twice their value. Now one line from you would often save both of us much trouble; say like this: "Send cheapest way;" or "I know express charges will be fearful, but I am in a hurry;" or "I am aware of the amount of postage it will take, but we have no express office near." Do you not see how this will help? I am bearing a great many of these burdens from misunderstanding, and I am willing to bear more, but will you not help me a little in the ways I have mentioned?

OBITUARY.

We are pained to hear of the death of an old friend and contributor to GLEANINGS, Rufus Morgan, of Bernardo, San Diego Co., Cal.; formerly of Raleigh, N. C. W. A. Pryal writes, "He was but a new comer to this state (Cal.) and his untimely death has cast a gloom over the bee-keepers of this section." Mr. Morgan has been widely and favorably known for many years.

Since writing the above we have received, from R. C. Taylor, the following, evidently clipped from a N. C. paper:

DEATH OF RUFUS MORGAN.

We were greatly shocked on Monday by receiving the sad intelligence of the sudden death of Rufus Morgan, at Bernardo, San Diego Co., Cal., on the 5th instant. He died from eating poisonous mushrooms. Cut down in the bloom of his days, in the full vigor of his manhood, ere the sun of his existence had reached its meridian; just as his plans for a useful and prosperous life were developing themselves most hopefully; he leaves a widow and two infant children to mourn their irreparable loss. His energy and enterprise led him to seek an El Dorado in that far off region; he found an untimely grave, far from his home and friends, and was buried by strangers. Such is the vanity of human expectations! Mr. Morgan was well known, and greatly beloved in this section of the state, and many well exclaim "Alas, my brother!"—Signal.

Our Homes.

For whosoever will save his life shall lose it: and whosoever will lose his life for my sake shall find it.
—Matt. xxvi. 25.

DEAR BROTHER:—While on a visit a few days ago, I saw for the first time your bee journal, and was very much impressed from what I read in it to write you a letter. The Home Department contained things "new and old," yet each in a manner unusually impressive. I was struck dumb, alarmed, interested, and very much agitated, while a keen sense of remorse stung my soul. I have been a professor of religion for over 12 years; am now 32 years old; yet the whole time seemed to me to be lost. As I read those wonderful things in your journal, I exclaimed, "Where am I?" Now, my dear brother, I feel that I can place confidence in you, although I have never seen you. I am a minister of the gospel, an editor of two papers, and have other business on hand. One paper is a religious monthly journal devoted to the defense of the Bible and Christianity, and is one year and two months old. The other is a weekly local newspaper about 90 days old. I have a partner who does the work with other hands. He is a member of the church also. We are both energetic, young, conscientious, and honest; yet we are going behind every week. I am restless and uneasy over the state of our business. I do not feel happy in the ministry. I once had no other calling, but could not keep my family up by it. During those days, my cry went up continually for a nearness to God, and for help to continue to trust God for all needed good. I came out in debt, and sought the printing business, having been impressed previously, as I believed, that a journal for the defense of truth and religion ought to be published. I had not a dollar to commence on, but prayed for the means if it was God's will. God caused one of my brothers to get rich very suddenly, and he gave me the means. I at once commenced the publication of ———, believing God had called me to that work. The circulation has not reached what I expected it would by the close of the first volume. I am in debt with it, or rather it has caused me to get in debt. I can not see my way out. I can not stop it without disgrace, and could not pay the money back to those who subscribed. The weekly does not pay, but will pay if I devote it to the interests of a political party. This, I am afraid to do. And, in despair, I cry out, what shall I do? I have made but little progress religiously. I am too busy to study any, my library is dusty, my soul is lean, my purse is flat, and I am miserable.

I send you a copy of our religious paper; read it, and pass judgment on it. Do not fear to express yourself just as you feel impressed. I want you to write me a letter. Do not by any means publish this letter or my name. This is equal to a dying man's request; please regard it. If you have not time now to answer me, lay it by until you have, or I will pay you for your time and all expenses of writing. Don't mistake me; I know what religion is; I have tasted of the heavenly gift. I am a Cumberland Presbyterian. If it meets your approbation, send us your journal in exchange for the ———. Pray for me. O how I need help! May God bless you in your labors. I believe you

are on the right track. Anything will be accepted from you in the way of advice. Should I never hear from you, nor see you, still remember me.

Yours in hope of endless life.

X. Y. Z.

May God grant, my poor friend, that I may be able to give you safe advice in this your dire extremity, as indeed I know it must be from what experience I have had in business troubles. I have read your letter several times, and I have thought about it, and prayed about it, and for you. I have looked over your paper too. I presume you are aware that my line of work is a little out of the general one, even in religious matters. It seems to me your paper, and, I fear, your sermons, are too cold and distant. I do not, in any place, find in it the warm-hearted kindness and friendliness that I find in the letter you have written to me; in the latter, you yourself come out strongly and honestly. I read the letter to my wife, and her heart warmed toward you in an instant, and she asked to see the paper. Here is my advice:

Get down out of your pulpit, and talk to your people as you have talked to me. Leave out those fine articles on doctrine, in your paper, and write such a letter as you have written to me. Go to every one you owe, and tell them the whole truth, and throw yourself on their mercy. You have no right to take their money, but you have a right to ask them to forgive you for the mistake you have made, and to try to overlook the wrong you have done them. Be honest, true, straightforward; if your creditors will take it, give them everything you have in the world, even to your clothing. Hand it all over as faithfully and completely, as if you expected to be struck down dead, as were Ananias and Sapphira. Let it all go; then you can trust God as do the fowls of the air, and then shall you have joy and peace to your soul. I know this is strong, but you are a minister of the gospel, and if you turn your back or try to flee these things, it will be heralded far and wide. Do not, my brother, O, I pray you, fail to face the situation fearlessly and bravely. Go down on your knees, if need be, to ask forgiveness of those you have wronged, but do it honestly and squarely, like a man. If you are getting deeper in debt every day, as you are, stop your paper at once, both of them. Send out one more number to make your confession and ask forgiveness, and then do not issue another number, with other people's money. Trust God, and fear not. Your opening editorial in the number you sent me indicates to me that you do not trust God and your fellow men. When you are serving God and your fellow men, they will come forward eagerly, and give you all the help you need. I know they give me far more than I deserve.

I some way feel as if I must say a word to your wife. Much depends on her. If you have children, all the better, you can trust God more. You are now just where you can work hard, and be happy,—happier than you have ever been in your life, if you will only take up this cross that lies before you. You speak of disgrace; there is disgrace in going ahead *one day* under false colors, but

there is none in turning about at once. Go right up boldly, with God by your side, and tell the plain truth to every one you owe. Then come down to a life of close frugality. Give up all expensive habits, and, if it is God's will, earn every copper you have by the sweat of your face. Pay cash for everything. Do not get in debt to the amount of one cent. If you can not pay for what you want, go without it. If you or yours get hungry, in doing this, ask God for your daily bread in truth and earnestness, and it will come as surely as the sun will rise day by day in the east. You say, do not by any means publish your letter. I would not think of asking for the letter with your name attached, but, my friend, I want that letter more than any one from among the hundreds I have on the same subject. I do not know what sermons you have preached, but I do know this one will reach hearts without number. I will omit every thing that may, even remotely, hint as to your abiding place. If God guided me in choosing words in the GLEANINGS you have seen, he has probably guided me in the words I have written. Do not turn away from them, and take words of worldly wisdom, and try to save a part of your worldly possessions. The world may call it saving, but contrast it with treasures laid up in heaven. "Heaven and earth shall pass away," but God's promises, never. One way is safety, and the other is ruin. Listen not to the voice of the tempter. There is not one of your creditors who will not stand up for you as they would for a friend, if you do as I have said. I know business customs, and I know business men. You are, perhaps, now before the cannon's mouth of public opinion, but, O my brother, face it fearlessly with God by your side. Into his hands I commend you, thanking you once more for the compliment you have paid me, in coming to me as you have. I know what it is to be tempted.

My Dear Brother in Christ:—Your reply to my letter came to hand in due time, and was read by myself carefully and prayerfully. You will forgive me for not answering it before; yet really, I have not had time, when at home, to think of much else but business, and have been away from home so much, since your letter came, that, in part, it was lost sight of. I was shocked at your letter, or rather its strong measures for my adoption. Not because you failed, or because it did not seem wise, but on account of the contrast between the spirit of your letter, and my spiritual standing, or state of mind. I fear I could never be educated up to such a state of mind. I am too proud spirited to entertain such an opinion. This pride I am not proud of, but it is mine,—it is my enemy. Times without number, have I called upon God to deliver me from it, yet it remains. I do not lay the blame to God, but to myself. Yet I do not understand it. I am convinced that your advice would, if adopted, bring about a change for my good and the glory of God. But without the grace of God, I can not act in accordance with it; I mean more abundant grace. I have disposed of one of my papers, but still hold on to the ————. In this disposal, I have greatly bettered my condition financially, and have done it too, with credit to myself and business. But how, and when to let the ———— go, I know not; yet for

the glory of God, I will do so when the way is opened. I love your ideas of religion and its effect, and very much appreciate your kind Christ-like letter; but, O my dear brother, I have not religion enough or humility enough to carry out its strong measures as yet. It would do my soul good to see you, and let you know how helpless I am. I am a mystery to myself. God knows how deeply I feel the force of your advice, and how I long and cry for freedom. Yea, He knows my unspeakable sorrow, and hears the groans my poor soul sends forth for mercy and liberty. Yet I am sad and bound in iron and in chains.

I have a believing wife and three loving children; am 33 years of age (nearly), and full of energy, ambition, and pride. I sometimes feel as if I were lost in bewilderment, discouragement, and doubt,—doubt akin to infidelity. Yet I hope. Oh, if it were not for hope, surely I would be lost. Not far off in the future, I am to become a wise and better man, or plunge into eternal ruin. This, I feel, is a sure thing. May it be the latter. Death, it appears to me, would be a sweet release, or relief, from the strange responsibilities and troubles now resting on me. But my dear, my sweet little family! they call me to stay. May the eternal Father, bless you and yours, is my prayer.

I have no objections to your publishing my letter, if you can do so without giving any idea of who, or where I am, provided you feel it will be of any good to others, or for the praise of God. I do not expect you to answer this letter, for I know how you are rushed with business. You may never hear from me again, but I shall ever hold you in high estimation. I hope to meet you at the judgement, if surely there is to be one, when time is no more. Remember me to your wife especially. Pray for me; though it be my last words forever, pray for me.

Yours in hope.

X. Y. Z.

My friends, you have in the above a little sketch of one human life; the tortured cry from one immortal soul, who sees where he stands, and who though a minister of the Gospel feels himself helpless to break that chain of pride that Satan has woven about him. Many of you can perhaps see how he magnifies the trial it would be for him to give up all. In thinking of it, I am forcibly reminded of an illustration I have heard. A man went down into a dark well by a rope. In fastening it before going down, he calculated that it reached the bottom without doubt; but, after sliding down to the end, he discovered to his consternation that he neither touched bottom nor the water. He tried in vain to find a foot hold on which he might rest; in despair, he attempted to climb up again; his strength was too far gone. When he could hold on no longer, he commended his soul to God, and went down in the darkness. To his great surprise and joy, he only dropped *one foot* and struck on *solid ground*. It is so in trusting God; we think our life will be lost; that we shall have to give up every thing we hold most dear; but, when we resolutely face the great ordeal, and put our whole lives in God's hands, to our surprise, we are not hurt at all, and have in reality lost nothing that would make us happy in this world. As I told you in the Growler for this number, it will not do to make calculations on

this, for you must really cast yourself into God's hands, soul and body; you must say *thy* will be done, and do it, whatever the cost, and then shall you have rest; then will life be satisfying.

Friend Root:—I see your method of prayer is similar to that of Fred Douglas, as he used to give it in his lectures. He said that, when a slave, he prayed for freedom with his lips a great deal, but that his prayer was never answered until he began to pray with his legs. So I suppose your prayers with your lips in secret, have to be supplemented by your Home Papers, to be "read of all men," in order to insure fruition.

STEPHEN YOUNG.

Memphis, Mo., May 5, 1880.

To the first part of your proposition, I should most certainly assent, friend Y. Have I not urged, over and over again, with all the energy I possess, that God can not, from the very nature of things, answer the prayer of a lazy man? Do you not remember about the man who prayed that God would take care of his sheep, but that, in spite of his prayers, they all starved to death? The story was related to me by a saloon keeper, as an evidence of the futility of praying to God when we are in trouble. Does not the story itself bear the stamp of an absurdity, on the face of it? If the man sat lazily by the stove, instead of facing the storm to do his duty by his flocks, could any thing he uttered, in reality, be a prayer at all? Do you not recall how earnestly I have insisted that, if you wished your prayers answered, you should not only be working early and late to do every thing you possibly could do yourself, but that your whole life should be literally in God's hands? that you be in an attitude, every minute, to take up or lay down anything in life, for His sake? that you not only have no cherished purpose of sin, but that the very minute you discover you have been in the least acting selfishly, you give up and yield, and root out the evil, at whatever cost? Those who expect that God is going to listen to their pleadings should be praying not only with their legs, as you express it, but with their hands and brains too; and, in short, with every fiber of their whole being. Do you say that anybody who does this will succeed without praying? He may succeed in making money, it is true; but will he succeed in gaining the highest happiness, and in benefitting and helping his fellow men, as a child of God is sure to do? Praying alone does not avail, any more than does working alone; but the two carried along right together may move the universe.

In regard to your second point; it may be that the friend who sent W. O. the \$800.00 had seen GLEANINGS; of this I do not know. I only know that the idea had not occurred to me, until you mentioned it. God uses natural means to bring about these things, without question. I certainly am not sharp enough, or shrewd enough to lay plans that shall bring about all these results, even were I disposed so to do. It was once suggested to Muller, that the publication of his book was the secret of the sums of money pouring in to him for the purpose of constructing asylums, and, to test the matter,

the book was withheld for a considerable period of time. It made no difference. The money came right along in answer to prayer, just as before. Friend Y., you know, as we all know, that the man who *honestly* prays daily, "Create in me a new heart, O God, and renew a right spirit within me," at the same time that he deals his "best licks" right and left for the accomplishment of some purpose, which he feels both God and his fellow men will approve, will succeed as one who is selfish, designing, and intriguing cannot possibly do. The difficulty is that you will have it that the prayers are empty words, and not real and sincere. You cannot conceive of a human being who really has enough downright honesty and sincerity of purpose, to be in earnest, in such a work. How often we hear it said, "There are no such men;" and "Humanity is pretty much the same, the world over;" and such like expressions. You doubt God, and, in the same line, you also doubt human professions of godliness. What a beautiful thing is a loving faith in humanity,—a faith that nothing can shake or change! It is akin to that faith and trust in God which holds out, no matter what may be the trials or circumstances. I think I can illustrate it.

If you will look back to page 459 of the Nov. No., for last year, you will see that I gave our young friend B. another imported queen, in place of the one he lost. Well, here is a postal in regard to that queen:

Friend Root:—To-day I send you seven bees from the imported queen I had of you. Five are the darkest, and two the lightest she produces. Please examine, and if you pronounce them three-banded bees, I'll be a happy boy. Now please let me know right off, for I want to start queen cells from her, if she is all right. Good wishes. O. F. BOWEN.

Randolph, N. Y., March 23, 1880.

The bees sent were, some of them at least, little, if any, better than pure black bees. If our friend has been careful and there is no mistake, we have at length an imported queen that produces not only hybrids, but black bees. I hardly know what to make of it. As it is the first case of the kind I have ever met, I am inclined to think somebody has made a mistake. I cannot think it possible that we have, for the queen was shipped just as she came out of the shipping box. I know nothing about friend B.; I never saw him, and have hardly heard from him, except in the few letters I have given from him. How do I know he is neither dishonest nor careless? Perhaps I cannot tell you, but I will try. I believe him to be a child of God, and, as such, I would not be at all afraid to trust him with every cent I have in the world. I would feel perfectly easy in giving him my pocket book, without knowing what it contained, and I sent him another queen at once, without charge, even though my losses on imported queens have been so heavy. Suppose he has made a mistake of some kind like the friend on page 264? Well, if he has, it does not trouble me. If it is my loss, it is his gain, and God will certainly take care of us both, and make all right that is not right. Are there no others among you in whom I can feel this trust and confidence? I am glad to say there are a

great many, and the number seems to be increasing every day. Now do not imagine I am doing business in a loose and slipshod way, because I have said this. I am one of the "fiercest" fellows on a dun, you ever saw, and the way I go over and look at every thing, insisting on even the last copper, in a trade, might look a little inconsistent to some of you. Here is a card from friend B. after he got his last queen:

The queen received, introduced, and laying. I feel my unworthiness of such great kindness keenly. I could not send out queens known to be bred from an impure mother. The tears would trickle down on the pillow last night, while thinking of *all* your kindness to me. I owe several debts, and have only \$1.50 at present, but if you will tell me how much you candidly think I ought to pay you, I'll try to get it for you. May you prosper in all you undertake. Truly yours,— O. F. BOWEN.

Randolph, N. Y., May 10, 1880.

Nothing, friend B. It is all paid. I can feel this confidence and trust in my fellow-men, when I can feel, in the language of our opening text, that their lives have once been lost, for our Savior's sake, and that they henceforth, as far as a greed for gain is concerned, shall be as anxious for my welfare as for their own,—lost for evil, but *found* for all that is good.

Since writing the above, the following has come to hand:

Your card is received, offering to bear half the loss of the queens sent me about April 14th. I am very much obliged to you indeed, for the kind offer, but cannot accept it, as I do not believe I would be doing justice to you or myself either (more injustice to myself than to you) to do so. I believe I said explicitly I did not blame you for the loss sustained. Should I accept your offer, I should feel conscious that I had taken your property without compensation.

Fifteen years of laborious practice of my chosen profession, I believe, has enabled me to feel much of the desire you have to please your customers, and also the willingness to suffer loss rather than incur the displeasure of those with whom you deal.

I cannot believe that anything *happens* to me, but that all that befalls me is ordered by our Father in heaven for our highest benefit; and I hope to live until all that I do shall be done for the glory of God, and that Christ shall be to me all in all.

Fraternally yours,—

ENOCH S. ARWINE.

Bean Blossom, Ind., May 21, 1880.

Where this spirit prevails, my friends, not only will unkind words cease, but unkind *thoughts*, even, will be unknown.

On page 83 of February No., I told you it seemed to me I would be perfectly happy if I could say to all the boys and girls who come thronging to me for work, that I could give them a place, etc. I talked with my wife about it, and told her it seemed as if God was sending them to me that, while giving them something to do, I might, at the same time, give them of the bread of life. Well, for many days, and even weeks, it was a continual subject of prayer, that God would send the work, that I might not be obliged continually to send these young

folks away in disappointment. I had prayed so long about it that I finally felt, as I often do, that an answer of some kind was surely coming. I once before told you that earnest, honest prayer, for something not selfish, seemed to me like piling fuel under the boiler of a steam-engine. No immediate effect is at once perceptible; but prayers day after day, for something which, we are sure, meets God's approval (now, bear in mind that I mean earnest, hard work with hands and brain right along with it, to show God, as it were, that you are in earnest) is sure to bring forth a result sooner or later. Up to nearly the first of May our trade in hives, etc., was not up to the average of other years. So true was this, that Mr. Gray remarked that we should probably get along without as many hands as we had last year, and without working over hours, especially as our machinery was so much improved over previous years. Finally the apple-bloom came out with an unexpected flow of honey, and the yield seemed to be general all over our land. As a consequence, our friends discovered, all at once, that they wanted hives and sections; and, as many swarms came out in apple-bloom, they wanted them right off. A great many apologies were sent for waiting until they were just ready to use the hives, etc., but each one seemed to think himself probably the only one who had been so careless. Hands were called in a twinkling, the engineer got up before daylight, the furnace under the boiler was urged by coal and shavings up to a fierce heat, and kept there all day long, while every machine in the establishment was set going, and the roar and din of swarming season commenced in good earnest. More clerks were hired, additions were made to the desks, and when all could not be accommodated then, even my private office was given up, and we determined at least to give prompt and courteous answers to all customers, if we could do no more. Realizing the dangers that would ensue from getting out of lumber, metals, or any raw materials, I kept one girl almost constantly writing postal cards for supplies. Car loads of lumber, coal, and tin came down upon us in such haste that we could hardly find time and men to unload them. Wax, glass, paper, twine, nails, hoop iron, enameled cloth, and everything that I could remember of ever having had to wait for, were ordered in such quantities that even the clerks began to open their mouths and stare; and I have since wondered that I scanned the whole needs so well that we have hardly waited a day for anything that money could well buy. For fear I might be disappointed in tin, wax, and some such things at one house, I often sent orders at the same time to two and sometimes three different houses.

By getting our hands, and making arrangements for further work, for a few days, we kept the orders that came pouring in, in sight of us; finally, there came a day with 160 orders, amounting in all to over \$700.00, as mentioned elsewhere. This was too great a flood for us all around, and we were almost staggered by it, but the next was nearly as great, and the next, and so on.

What was to be done? My prayers were indeed answered, and, as in other cases, God's mighty hand was seen through my fellow men. They had placed confidence in me, and here I was almost helpless. God had sent the money and the work, in answer to prayer; would he also, in answer to prayer, send the means of lifting this load, and keeping my name good? To be sure he would, but, alas! here my faith was somewhat lacking. I worried, and scolded some, when things went wrong, which I would not have done, had I been sure that all things would work together for good, even at such a time. I worked with the hands until daylight was gone, read letters pretty well into the night, and then was up and stirring almost at the first glimpse of daylight at the factory. The mails we kept fully up with, and all orders to go by mail have been filled, I believe, promptly. It is a delicate and dangerous business, bringing in new hands at such a time, and the best meaning person in the world may do a "heap of mischief," in going into a new place, where everybody has his head as full of wants and worries as it well can be. After praying over the matter, it seemed to me I could make bright, intelligent, educated women understand the wants of the case, better than anybody else; but where should I find them? Several girls had recently graduated in our town, and one or two of these had applied for a place. These were sent for, and the tangled ends of the business were placed in their hands, with such explanations as could be briefly given, and they were set to work filling orders. You can hardly know how grateful I felt, as I saw them take hold at once with skill and wisdom, and master the difficulties in a way that caused me to go down on my knees again, and thank God for his wisdom in guiding me once again. So well have these girls done their part, that almost every order by express has gone off promptly, unless it was for something that had to be boxed or crated. Knowing how all the men and boys were working, these girls were as ready to weigh out and put up a two bushel bag of buckwheat as to send off an A B C book.

To keep up orders for fdn., two sets of hands were employed, and we ran day and night; but the Insurance Co's would not permit this in the lumber rooms, and so we were obliged to do the best we could during the hours of daylight. Our packing room was found to be not near large enough, and we therefore had hives boxed and crated on the platforms out of doors. But to get careful men, men whose minds had been drilled so they could be trusted, and who would not make mistakes, was another great want. Over and over again, did we feel as did Muller, that it was an easy thing to get money, compared to getting careful, trusty, and efficient help,—help that would set a good example before these little ones; for, in the various departments, we found work in abundance for boys and girls of almost all ages, if some careful man or woman could keep an eye on them, and tell them kindly and patiently, just what was desired of them.

During these days, my almost constant prayer has been, "Lord, help! Lord, help!" until I am afraid on several occasions I was heard while I involuntarily said it aloud. Lumber for hives and frames could be got in any abundance, but the white basswood for the new sections was only to be had of farmers, and, in spite of all the urging we could do, they seemed to reserve their usual prerogative of moving slowly. Again the only recourse seemed to be, to pray that the basswood might come in faster, and when it did come—I knew it would—we constructed a dryhouse, where it was dried by steam in three or four days, so as to work beautifully. Soon, complaints began to come, of the delays on hives, but a new trouble arose. With the flood of letters ahead, how was one to tell without much labor, whether the goods had been sent or not. The search could not well but annoy and hinder the different clerks in whose hands the order might be. Of course, the orders were all copied on books, alphabetically arranged, but as the clerk who opened the letters and carefully noted the contents of each could hardly get through with each day's mail, it was nothing strange that the book-keeping clerk found a heap of unbooked orders before him, when night came. Two could not well work at it, for obvious reasons; here came in the great troubles and delays from those who mixed up their orders, or failed to tell definitely what they did want. No matter into what room I went, clerks were asking, "Mr. Root, can you tell what it is this man should have?" Many times I could only guess, and, at the time I was guessing, I knew I should get a scolding, if I guessed wrong. Why not write back? well, I should get scolded more probably, for the delay. This is not always the case, for many of you have been very kind.

A friend sent an order, and needing the goods sooner than he expected, he wrote to have them hurried up. Not getting a reply by return mail, he sent a telegram. The telegram was handed me at half past 10, Saturday night. As the matter was all in the hands of the clerks who had gone home, I delayed the answer until Monday morning. Monday morning brought the man himself on the first train. He got his goods, made a pleasant visit, exhorted me never to give up my warfare against tobacco, although he was an inveterate user, attended our noon-day service, and went away feeling much more charity for us all; but as he stood at the well, getting a drink at parting, he spoke as follows:

"Mr. Root, I would not be in your place for the next two months for \$500."

I mentally straightened, to think I was a man of so much importance; but at his next words I settled down into my shoes a little lower than ordinarily. As he quaffed the cool water from our new well, he resumed:

"I would not be in your place, and take the cursing you will get, for hardly any amount."

"Cursing? Why?"

"Because you do not fill people's orders more promptly; because, in fact, you *can* not fill them. With the hold you have got

on the people, and with the trade you have started, by being ordinarily prompt your whole establishment will not half suffice."

His words, though hard, did me good. Do you not see, my friends, now, that those prayers for work for these people to do have indirectly brought curses? Do you see what a solemn thing it is to plead with God for something out of the ordinary routine of life? The mother of Zebedee's children asked a favor of Jesus. The reply was, "Are ye able to drink of the cup that I shall drink of?"

Now, may I make a little plea in self-defense? and may I ask of you to have charity? In all my business experience, I have never yet found a factory which never got behind and delayed orders. During the past few months we have had to wait from ten to thirty days for almost all of our supplies, and our only recourse has been to order in advance. Had your orders been sent in April, instead of May, it would have been a great help all around. I have been severely blamed because I did not say when the goods would be sent. My friends, at such a time it is impossible to say when. As a general thing, orders are sent in rotation; but if the first one is delayed by lack of sections, or something of that nature, the clerks take the first one that does not call for the missing article. With such a great array of goods as we have on our list, it is almost impossible to say when an order may go. The girls at one time commenced writing an apology for each customer; but this soon became stereotyped, and, after leading a customer to get mad thinking he was going to be delayed, his goods went promptly by next train. As a great part of this great trade always drops off in June, we hope to be able to send everything with our usual promptness by the time this is in your hands. Anything that is to go by mail, or goods to go by express that the girls can handle, we can send right off, as a general thing. If others in the supply business are doing better than myself, send to them by all means. I do not want all the trade, and I do rejoice in seeing all who deal in supplies build up and thrive. May that kind Savior above help us all to bear with each other, and to bear each other's burdens!

OUR Alsike clover is unexpectedly in full bloom.

You will observe this month that we have "Contents" once more, and that it is arranged alphabetically. How do you like it?

PLEASE, my friends, do not be so unkind as to return goods that do not happen to please you, before we have had an opportunity of telling you what to do.

THE demand for bees by the pound has almost impoverished our apiary; Will say they are too cheap; that a half pound of bees should be equivalent to a dollar queen.

I WAS up at 2 o'clock this morning, helping the night hands make fdn., that you might not be delayed on your orders for it. So anxious are we all, that I could hardly persuade the younger ones to go home and go to bed at all.

IN our last number, we inadvertently gave the impression that we sent a 2 oz. vial of ink with chirograph by mail. By mail we send the ink in powder; by express we send it in a liquid form in a bottle.

CIRCULARS AND PRICE LISTS OF BEE-KEEPERS' SUPPLIES RECEIVED DURING THE PAST MONTH.

POSTAL-CARD CIRCULARS.

Ila Michener, Low Banks P. O., Monck Co., Ont., Can., for queens only, including very yellow or Albino queens. I. A. Travis, Lyons, Wis., for Dunham fdn. only.

A SINGLE LEAF CIRCULAR

Comes from Jas. A. Nelson, P. O. Box 83, Wyandott, Kansas, for comb fdn. only.

TWO-LEAF CIRCULARS.

Advertising Apirian Supplies generally have been received from Lewis A. Best, Best's, Lehigh Co., Pa.; Ernst S. Hildemann, Ashippun, Dodge Co., Wis.; and A. E. Manum, Bristol, Vt. Also a circular from D. A. Pike, Smithsburg, Washington Co., Md., advertising bees and queens only.

FOUR-LEAF CIRCULARS.

From O. H. Townsend, Hubbardston, Ionia Co., Mich. Also a pamphlet, by Isaac Hale, 29 Lincoln Road, Horncastle, Lincolnshire, giving directions for management of Italian Bar Frame Hives. Price threepence.

SMALL CIRCULARS OF 6 TO 12 PAGES.

John Y. Detwiler, 25 Summit Street, Toledo, O. J. W. Newlove, Columbus, O.

Honey Column.

Under this head will be inserted free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away, to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25cts., we can furnish little boards to hang up in your door yard, with the words "Honey for Sale" neatly painted. If wanted by mail, 10c. extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CINCINNATI.—Honey.—Best White-clover Honey in bbls. and half-bbls., 10 @ 11c. Ditto in tin cans of 10 to 25 lbs. net, 14 @ 16c. Ditto, in 1 lb. jars, per dozen, \$2.25; per gross, \$25.00. Ditto, in 2 lb. jars, per dozen, \$3.75; per gross, \$42.00. Ditto, in ¼ lb. tumblers, per dozen, \$1.50. Poplar, Buckwheat, Linn, and fall honey in bbls., 9 @ 10c. Ditto in tin buckets of 10 to 25 lbs. net, 12 @ 14c.

Comb Honey not much in demand, with no stock in the market.

Beeswax.—Dull and quoted @ 20c.

Cincinnati, O., May 21, 1880.

CHAS. F. MUTH.

NEW YORK.—Honey.—Best white Comb Honey, in small neat boxes, 15 @ 17c.; fair ditto, 13 @ 14c. No dark honey in market. Extracted Honey, White Clover and Basswood, 9 @ 10c.; Golden Rod, 8 @ 10c.; Buckwheat, 7 @ 8c. Southern strained, per gal., 70 @ 85c.

Beeswax.—Crude, 23 @ 25.

A. D. THURBER.

158 Duane St., New York, April 22, 1880.

CHICAGO.—Honey.—Good to choice White-clover in small boxes, 16 and 18c. per lb., and extracted is quoted at 8 @ 9c.

Beeswax.—Steady at 21 and 23c. per lb. for good to choice yellow, and at 15 and 18c. for common dark-colored to fair lots. THOMAS G. NEWMAN & SON.

974 West Madison St., Chicago, Ill., May 25, 1880.

ST. LOUIS.—Honey.—Our honey market is dull—weather too warm and too much fruit. Choice comb, 16 @ 17c. Extracted, slow, sells at 8 @ 10c.

Beeswax.—Steady at 21½ @ 22½c. for prime.

R. C. GREER & CO.

No. 117 N. Main St., St. Louis, May 22, 1880.

RECENT ADDITIONS TO COUNTER STORE.

USEFUL ARTICLES THAT CAN BE SOLD FOR FIVE CENTS EACH.

All Prices Subject to Change without Notice

Postage on each		Price of 10	Price of 100
4	Cake Turners, all metal and very pretty.....	45	4 25
1	Carpenter's Pencils, with Rule on the Side.....	40	3 75
1	Court Plaster, to be kept in Drawer under Buzz Saw Table.....	30	2 50
8	Cups, 1 quart, (for only five cents).....	48	4 50
4	Dinner Horns, Loud if not Sweet.....	45	4 25

Just the thing to let the "men folks" know when the "bees are swarming."

12	Folding Hat Racks, all Black Walnut, Wonderfully Well Made for the Money.....	40	3 75
7	Frying Pans, Good to Carry along when you "go Fishing," or to melt Babbet Metal in.....	48	4 75

GLASS WARE.

	Goblets, Cups with Handles, Tumblers, &c., both large and small, 7 very pretty designs, and beautiful for only 5c each.....	45	4 25
	Berry Dishes, Individual, very pretty.....	45	4 25
3	Lamp Shades, Good and Pretty.....	35	3 00
12	Ladle, Pierced, Tinned Iron.....	45	4 25
6	Ladle, Solid Tinned Iron.....	45	4 25

This is dipped in melted tin after it is all finished, making all the joints smooth, strong, and secure, and giving it all a beautiful glossy finish, as nice and bright as silver, and just about as serviceable, if we only think so. At the very small price of 5c, you can get a new one whenever they become worn or rusty.

2	Marking Brushes.....	40	3 50
	Matches, Best Parlor, no Brimstone, no Smell.....	45	4 25
2	Mat Chromos, size 7x11 inches.....	40	3 75

As a general thing, I am not much in favor of Chromos, but when I saw these beautiful pictures, on a dark background, for only 5c, I decided they were a boon to humanity.

2	Memorandum Books, Excellent for a Pocket mem. book for the apiary, 100 pages.....	40	3 50
4	Mirrors, in either Wood or Paper Frames, nice to bring down a swarm of bees.....	40	3 75
4	Nippers, the Best 5c tool in the whole lot, without question.....	45	4 25
5	Pans, 1 Pint, with Handle, very pretty and Handy.....	45	4 25
6	Pincers, like the 5c scissors.....	40	3 50
4	Pokers, to stir the fire, Wood Handle.....	45	4 00
7	Spice Box, Gilt.....	30	2 50

With Close Fitting Cover, very neat and pretty. These are exactly the size of the pint honey pails; but they have no ball, and are not soldered. The expense of soldering would be but a trifle, and they would then make the cheapest and prettiest package for candied honey known.

6	Sauce Pan, Tinned, 1 Pint, with Lip.....	45	4 25
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Just as pretty, and just as handy for a variety of purposes as can be.

4	Table Spoons, Britannia, almost as nice as silver, only they bend pretty easily.....	50	4 75
6	Tea Canisters.....	45	4 25
2	Tea Spoons, Britannia.....	40	3 50
5	Twine Boxes, to hold a Ball of Twine, made of Different Colored Woods.....	48	4 50
5	Towels, tastily fringed and striped, and just the thing, with a 5c wash basin, to "set off" the honey house.....	42	4 00

TEN CENT COUNTER.

4	Broom Holders, silvered wire, just right for Whisk Brooms.....	95	9 25
14	Clothes Lines, 55 ft. long, and have been tested with 300 lbs. weight.....	90	8 50

17	Clothes Racks, Walnut Frame, 4 Hooks.....	90	8 50
2	Eye Protectors, Excellent to keep saw dust and Turning chips out of your eyes.....	90	8 50

GLASS WARE.

	Glass Dish, with Glass Cover.....	80	7 50
	Just right for a 1 lb. Section of Comb Honey. Same for Candied Honey, same price.		
	Glass Pitcher, Small, for Liquid Extracted Honey.....	80	7 50
	Glass Dish, for "Honey Posies".....	80	7 50

The above four pieces of Glass Ware were made for Butter Dish, Sugar Bowl, Cream Pitcher, and Spoon Holder, but I have "confiscated" them for Bee-Keepers, as you see.

9	Ladies, same as on 5c counter, but Larger and Heavier.....	80	7 50
7	Mirrors, in Papier-mache Frames.....	85	8 00
2	Measuring Tapes, Spring, in Brass case, 36 in.....	75	7 00
	Oil for Sewing Machines.....	90	8 50

The Very Best that Can be Obtained, 4 oz. bottles. This is also the best oil for other light machinery.

4	Suspenders, Excellent for the money.....	90	9 50
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OUR "15 CENT" COUNTER.

In consequence of the advance on many 10c articles, this has been rendered almost a necessity.

2	Belt Punches, hollow.....	1 00	10 00
12	Milk Pans, 8 qt.....	1 40	13 50

Twenty-Five Cent Counter.

Clothes Baskets, Holding nearly 2 bushels..... 2 25 | 22 00
These, although pretty light, are a great convenience for holding light, bulky articles. We use several dozen of them in our factory, and as they nest one into the other, they occupy but little room when not in use.

6	Key Hole Saws, with Adjustable Iron Handle, a very convenient tool indeed, Disston's make.....	2 00	18 00
4	Putty Knives.....	1 60	15 00

Fine Steel, Cocoa Wood Handles, Steel Ferule, Beautifully Finished, with Stiff Blades, or Thin Elastic Blades, as you choose. Excellent for scraping off wax and propolis in bee hives. The blades are made Extra Wide with this end in view.

Thirty-Five Cent Counter.

19	Dinner Pails, with Coffee Cup.....	3 00	25 00
2	Scissors, 4 inches long.....	2 75	25 00
	Handles as well as blades of Finest Quality of English Steel, and Beautifully Finished.		
2	Scissors, Lace.....	2 75	25 00

Same make as above. These are the most Delicately Pointed scissors I have ever found, and are the best thing to be obtained for Clipping Queens' wings.



17	Wrench, malleable, Adjustable.....	2 40	23 00
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FIFTY CENT COUNTER.

20	Grass Hooks, or Sickles, Fine Steel Beautifully Finished.....	4 00	35 00
2	Scissors, Button Hole.....	4 00	37 50

Same size and same make as above, with screw adjustment for Any Sized Hole.

Seventy-Five Cent Counter.

	Basket, Oak Splint, 2 Bushel.....	6 50	60 00
4	Scissors, Large size, English make, Finest English Steel Handles and Blades; 7 in. long.....	6 00	55 00

ONE DOLLAR COUNTER.

	Basket, Oak Splint, 3 Bushels.....	8 50	80 00
	Carpenter's Saw, with 24 Inch Squ'e and Rule, Straight Edge, and Scratch Awl, Disston's make.....	9 00	85 00

RED CLOVER QUEENS

Having had so many calls for queens bred from my red clover queens, since my article appeared in April GLEANINGS, I have concluded to breed dollar queens for sale.

H. H. SNYDER,
6-7 Elmwood, Peoria Co., Ill.

WANTED!

A good, reliable, thrifty man, married or single, who can take care of bees and 5 acres of fruit. We need a first class man.

W. R. MONROE,
6d Bay City, Bay Co., Mich.

NOTICE.

All persons having claims against the undersigned are requested to present them at once. I am ready to pay all just demands against me.

H. ALLEY, Wenham, Mass.

TESTED QUEENS \$1.50.

Tested queens, daughters of imported mother, \$1.50. Dollar queens, 90c; mismatched, 50c. Safe arrival by mail guaranteed.

J. A. WARD,
6d Madisonville, Ohio.

W. Z. HUTCHINSON,

ROGERSVILLE, GENESEE CO., MICH.,

Makes a Specialty of rearing **DOLLAR QUEENS.**

All queens bred from an imported mother, and the cells built in full colonies. All queens in the apiary (except the imported queen) are daughters of imported mothers. No black bees in the vicinity. During June, the price will be \$1.00 each. Tested queens, \$2.50 each. After July 1st, single queen, \$1.00; six queens for \$5.00; twelve or more, 75c each. Tested queens, \$2.00 each. Queens will be sent by mail, postage paid, and their safe arrival guaranteed. Send money by draft, registered letter, or by P. O. money order drawn on Flint, Mich., as Rogersville is not a money order office.

6tf

FOR SALE,

500 worker combs, in American frames, at 20c each.

6d BYRON WALKER, Capac, St. Clair Co., Mich.

Pure Italian Queens!

I can furnish pure, tested **QUEENS**, in June, for \$2.00 each, or \$20.00 per dozen. Untested, \$1.00; per dozen, \$11.00. My Queens are all bred from imported Mothers. Safe arrival guaranteed.

A. F. STAUFFER,
6d Sterling, Whiteside Co., Ill.

WILL FURNISH DUNHAM FDN. AT 43 CENTS.

Shall have Tested Italian Queens, after June 25th. The queen cells will be built and sealed in full colonies. Price, \$2.50 each. Safe arrival guaranteed.

R. J. OSBURN & BRO.,
6d Le Claire, Scott Co., Iowa.

ITALIAN QUEENS AND BEES FROM IMPORTED MOTHERS.

Bees by the lb. for \$1 00
Untested Queens 1 00
Tested " 2 00

HALL & CHENEY,
6-9d Fern Cliff, Jackson Co., Ala.

\$1. ITALIAN QUEENS, reduced to 90c! 6 for \$5.00. Tested, \$1.90; 3 for \$5.50. Sent by mail; bred from improved stock in full swarms; safe arrival guaranteed.

H. BARBER,
6d Adrian, Mich.

AFTER 11 YEARS' EXPERIENCE IN QUEEN rearing, I am fully prepared to warrant all my queens pure, prolific, large, and light colored. Dollar queens, \$1.00; tested, \$2.00. By mail, satisfaction and safe arrival guaranteed.

6-10d S. W. STEVENS, Ridgefield, Fairfield Co., Ct.

DADANT'S PURIFIED FOUNDATION.

OUR FOUNDATION

IS CLEANER THAN ANY OTHER.

"The sample received from you pleases me in appearance better than any I have seen yet."

H. M. TAYLOR, Parsons, Kans.

"Your samples are better than any I have received."

D. S. BURBANK, Reinbeck, Iowa.

"Foundation arrived; it is very satisfactory."

CHAS. F. MUTH, Cincinnati, O.

"How beautiful your wax is!"

MRS. FRANCIS DUNHAM, Depere, Wis.

"Your sample is superior to anything I have seen. The wax is very clean and nice."

JOHN ANSLEY, Bloomington, Ill.

"Send Dunham fdn. as nice as those most excellent samples."

W. G. KEENEY,
Queucus Grove, Ind.

Circulars and Samples Free. We guarantee our foundation as **clean** as samples, yet we sell as **cheap** as the cheapest.

Chas. Dadant & Son,

6d Hamilton, Hancock Co., Ills.

READY TO FILL ORDERS AT ONCE, FOR Queens as Cheap as any one for the same grade of queens. Satisfaction guaranteed.

6 M. L. WILLIAMS, Vanceburg, Lewis Co., Ky.

WILLIS D. PARKER, Defiance, O.,

Manufactures watch and jeweler's boxes, bee-hives, sections, and other apiarian supplies. L. hives painted and sanded, with two supers filled with 54, 4¼x4¼ sections, complete, \$3.00. Sections in lots of 500, boxed, \$3.50; in lots of 1000, boxed, \$6.50; for 5000 or more, \$5 50 per M.

6d

Hale's Price List.

Send for my Circular and Price List for 1880. Early Queens a specialty. Address

2-11d

E. W. HALE, Wirt C. H., W. Va.

HEADQUARTERS FOR APIARIAN SUPPLIES.

Steam Power. New machinery complete. Our facilities for manufacturing Hives, Crates, Sections, &c., are first class. Before ordering, tell us what you want. We can do you good. Comb Foundation, Extractors, Knives, Smokers, &c., constantly on hand. Full Colonies and Nuclei a specialty. Send for our new System for Wintering Bees Successfully.

4tf

HIRAM ROOP,

Carson City, Montcalm Co., Mich.

WANTED IMMEDIATELY, an experienced hand to work in the apiary. Address

6d

O. H. TOWNSEND, Hubbardston, Mich.

REARING

OF

Tested & Dollar Queens

From extra-fine Strains of Italians, a specialty.

Try them, and be convinced that my Golden Italians and Light Leather-colored Bees take the lead.

I also Use an Imported Queen.

See Circular, sent free.

6d

J. M. C. TAYLOR,
Lewistown, Fred. Co., Md.

COMB FOUNDATION,

Honey, Full Colonies of Bees, and Bee-Masters' Supplies for Sale.

6d

WM. L. GORDON,
Shreveport, La.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For description of the various articles, see our Twenty-Fifth Edition Circular and Price List, mailed on application.

For directions *How to Make* all these various articles and implements, see A B C of Bee Culture.

This Price List to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of postage required.

To Canada, merchandise by mail is limited to 8½ oz., and nothing can be sent for less than 10 cents postage.

	A B C of Bee Culture, Five Parts complete in one, paper cover.....	1 00
	The same, neatly bound in cloth.....	1 25
15	Lighting Board, detachable (See A B C) \$	10
	Alsike Clover. See seeds.	
	Balances, spring, for suspended hive (60 lbs.)	8 00
	Barrels for honey.....	2 50
	waxed and painted.....	3 50
10	Basket for broken combs to be hung in the Extractor.....	25
	Basswood Trees for planting. See price list.	
	Bees, per colony, from \$8 to \$16. See price list.	
10	Bee-Hunting Box, with printed instructions	25
0	Binder, EMERSON'S, for GLEANINGS.....	50, 60, 75
10	Blocks, iron, for metal cornered frame making.....	15
	Buckwheat. See seeds.	
10	Burlap for covering bees, 40 in. wide, per yd	10
	Buzz-Saw, foot-power, complete.....	35 00
	Buzz-Saws, extra, 80c, to \$3.25. See price list.	
60	Buzz-Saw mandrel and boxes complete for 6 inch saws (no saws included).....	5 00
	The same for 7 and 8 in. saws (not mailable)	7 00
4	Cages for queens, provisioned (See price list)	10
48	per doz.....	1 00
	Candy for bees, can be fed at any season, per lb.....	08 to 15
	Cans for shipping extracted honey (See Honey), from 25c to \$2.00.	
0	Cards, queen registering, per doz.....	06
0	per 100.....	40
60	Chaff Cushions for wintering (See A B C) ..	30
9	without the chaff.....	20
	Chaff Hive (See Hives).....	5 00
2	Cheese cloth, for strainers, per yard.....	10
	Clamps for making section boxes.....	75
10	Clasps for transferring, package of 100.....	15
	Climbers for Bee-Hunting.....	2 50
	Comb Basket, made of tin, holds 5 frames, has hinged cover and pair of handles.....	1 50
	Comb Foundation Machines complete \$15 to 100 00	
10	Comb Holder to put on edge of hive.....	25
	Combs in metal cornered frames, complete	25
20	Corners, metal, per 100.....	50
25	top only, per 100.....	60
15	bottom, per 100.....	40
	Corners, Machinery complete for making \$250 00	
	Crate for shipping comb honey. See Hives.	
40	Division Boards of cloth and chaff.....	20
12	Duck, for covering frames and for feeders, 29 inches wide, per yd.....	20
15	Enameled Cloth, bees seldom bite or propolize it, per yard, 45 inches wide, 30c. By the piece (12 yards).....	28
	Extractors, according to size of frame, \$6 50 to 10 00.	
	Inside and gearing, including Honey-gate.....	4 00
	Hoops to go around the top.....	50
	per doz.....	5 00
5	Feeder, Simplicity (See price list) 1 pint.....	05
7	Feeders, 1 quart, tin,.....	10
5	The same, half size,.....	05
25	The same, 6 qts, to be used in upper story	50
20	Feeders, open air.....	15
3	Files for small circular rip saws, new and valuable, 15c; per doz. by express...	1 75
07	The same, large size.....	40
2	3 cornered, for cut-off saws, 10c; doz	1 00
	Foundation. See Comb Foundation.	
60	Fountain Pump, or Swarm Arrestor.....	8 50

5	Frames with sample Rabbet and Clasp...	07
18	Galvanized Iron Wire for grapevine trellises per lb. (about 100 feet).....	20
25	Gates for Extractors tinned for soldering..	50
55	Gearing for Extractor with supporting arm Glass. See price list.	1 25
0	GLEANINGS, per year.....	1 00
	For prices of back vol's, see price list.	
	Gloves. See Rubber Gloves.	
	Grape Sugar for feeding bees. See price list.	
	Grape vines for shading hives. See price list.	
	Hammers and nails. See price list.	
	Hives from 50c to \$6 25. See price list.	
	Honey. See price list.	
	Plants. See seeds.	
0	Honey Knives, straight .75; curved blade..	1 00
	" ¾ doz, by mail.....	4 00
	" ¾ doz by Express.....	3 75
	Jars for shipping extracted honey. See Honey.	
	Labels for honey, from 25 to 50c per 100; for particulars see price list.	
0	Lamp Nursery, for hatching queen cells...	5 00
	Larvæ, for queen rearing, from June to Sept.	25
15	Leather for smoker bellows, per side.....	50
0	Lithograph of the Hexagonal Apiary.....	25
1	Magnifying Glass, pocket.....	25
5	Double lens, brass, on three feet.....	50
0	Medley of Bee-Keepers' Photo's, 150 photo's	1 00
12	Microscope, Compound, in Mahogany box	3 00
0	Prepared objects for above, such as bee's wing, sting, eye, foot, &c., each	20
7	Muslin, Indian head, for quilts and cushions, pretty stout, but not good as duck, per yard.....	10
	Nails. See Hammers and nails.	
10	Opera Glasses for Bee-Hunting.....	5 00
	Paraffine, for waxing barrels, per lb.....	25
	Photo of House Apiary and improvements	25
	Planes and Planers. See price list.	
15	Pruning saws for taking down swarms, 75 and 85	
0	Queens, 25c to \$12 00. See price list.	
2	Rabbets, metal, per foot.....	02
0	Rubber Gloves, \$1.50 and \$1.75. See price list.	
	Rubber Stamps, \$1.50 to 3.00. See price list.	
0	Rules. (See Pocket Rules) 12 and 17c.	
	Salicylic acid, for foul brood, per oz.....	50
10	Saw Set for Circular Saws.....	75
	Saws. See Circular Saws.	
	Scales for weighing honey, etc. See price list.	
0	Scissors, for clipping queen's wings.....	40
0	Screw Drivers, all metal (and wrench combined) 4½ inch, and 5 inch, 8c.	
6	Section Boxes, fancy, hearts, stars, crosses, &c., each.....	05
	Section Honey Box, a sample with strip of fdn. and printed instructions.....	05
	Section Boxes in the flat by the quantity, \$6 00 per thousand and upwards, according to size; for particulars, see price list.	
12	Case of 3 section boxes, showing the way in which the separators are used, suitable for any kind of hive (See price list)	07

SEEDS OF HONEY PLANTS.

18	Seed, Alsike Clover, raised near us, per lb..	25
18	Catnip, good seed, per oz. 10c; per lb.	1 00
0	Chinese Mustard, per oz.....	10
18	Mellilot, or Sweet Clover, per lb.....	75
18	White Dutch Clover, per lb.....	30
18	Motherwort, per oz. 10c; per lb.....	1 00
18	Mignonette, per lb. (20c per oz).....	1 40
18	Simson Honey Plant, per oz.....	50
18	Silver Hull Buckwheat, per lb.....	10
	" peck, by Express	60
	Common " per peck.....	50
18	Summer Rape. Sow in June and July, per lb.....	15
	Spider plant, per oz.....	50

A small package of any of the above seeds will be sent for 5 cents.

	Separators, tin, for section boxes. See Section Boxes.	
5	Sheets of Enameled Cloth to keep the bees from soiling or eating the cushions...	10
	Shipping Cases for 48 section frames of honey.....	55
	The same for 24 sections.....	35
	(This size can be sent by mail in the flat, for 75c.)	
1	Slate Tablets to hang on hives.....	1½

SMOKERS.

	Smoker, Quinby's.....	1 00, 1 50, & 1 75
	" Bingham's.....	\$1 00; 1 25; 1 50; 1 75
25	" OUR OWN, see illustration in price list.....	75
00	Soldering Implements.....	1 00
	Swarming Box.....	75
2	Tacks, tinned, per paper, (three sizes).....	05
	For larger quantities see Hammers and nails.	
5	Thermometers.....	15
10	Transferring clasps, package of 100.....	15
	Tin, see price list.	
0	Veils, Bee, with face of Brussels net, (silk)	75
	The same, all of grenadine (almost as good)	50
	Veils, material for, grenadine, much stronger than tarlatan, 21 inches in width, per yard.....	20
	Brussels Net, for face of veil, 36 inches in width, per yard.....	1 50
	Wax Extractor.....	3 00
	Copper bottomed boiler for above.....	1 00
5	Wire cloth, for Extractors, tinned, 5 meshes to the inch, per square foot.....	10
2	Wire cloth, for queen cages, tinned, 18 meshes to the inch.....	10
3	Wire cloth, painted, for shipping bees, 14 mesh to the inch, per square foot.....	05
	Wire for grape vine trellises. See Galvanized iron wire.....	

All goods delivered on board the cars here at prices named. A. I. ROOT, Medina, Ohio.

DOLLAR QUEENS

BRED FROM QUEENS

OF MY OWN IMPORTATION.

SENT BY RETURN MAIL.

SAFE ARRIVAL GUARANTEED.

7d LEWIS A. BEST, Best's, Pa.

GOOD QUEENS FOR 65 CENTS. SEE PAGE 348.

REARING

OF

Tested & Dollar Queens

From extra-fine Strains of Italians, a specialty.

Try them, and be convinced that my Golden Italians and Light Leather-colored Bees take the lead.

I also Use an Imported Queen.

See Circular, sent free.

7d J. M. C. TAYLOR,
Lewistown, Fred. Co., Md.

IMPORTED QUEENS

JUST RECEIVED. PRICE \$5.00.

SAFE ARRIVAL GUARANTEED.

7d LEWIS A. BEST, Best's, Pa.

ITALIAN QUEENS AND BEES
FROM IMPORTED MOTHERS.

Bees by the lb. for.....	\$1 00
Untested Queens.....	1 00
Tested ".....	2 00

HALL & CHENEY,
Fern Cliff, Jackson Co., Ala.

Hale's Price List.

Send for my Circular and Price List for 1880. Early Queens a specialty. Address
2-11d E. W. HALE, Wirt C. H., W. Va.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st. If wanted sooner, see rates in price list.

*E. W. Hale, Wirt C. H. W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7tf
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	7tf
*King & White, New London, O.	7tf
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*J. R. Landes, Albion, Ashland Co., O.	7tf
*D. A. McCord, Oxford, Butler Co., O.	2-1
*D. E. Best, Best, Lehigh Co., Penn.	2-8
*R. Robinson, LaCade, Fayette Co., Ill.	3-8
*S. F. Newman, Norwalk, Huron Co., O.	7tf
*C. C. Vaughan, Columbia, Maury Co., Tenn.	7tf
*S. W. Salisbury, Kansas City, Jackson Co., Mo.	3-8
*S. D. McLean & Son, Culleoka, Maury Co., Tenn.	3-8
*S. D. Moore & Co., Atlanta, Fulton Co., Ga.	3-8
*T. G. McGaw, Monmouth, Warren Co., Ill.	3-8
*R. Thomson, Terry, Hinds Co., Miss.	3-8
*Lewis A. Best, Best, Lehigh Co., Pa.	4-9
*J. B. Bray, Lynnville, Giles Co., Tenn.	4-9
*J. W. Newlove, Columbus, Franklin Co., O.	4-7
*H. T. Bishop, Chenango Bridge, Broome Co., N.Y.	57
*O. H. Townsend, Hubbardston, Ionia Co., Mich.	4-9
*Thos. E. Price, Baden, St. Louis Co., Mo.	4-8
*Oliver Foster, Mt. Vernon, Linn Co., Iowa.	7tf
*I. R. Good, South West, Elkhart Co., Ind.	5-10
*J. M. C. Taylor, Lewistown, Fred. Co., Md.	6-11
*B. Marionneaux, Plaquemine, Iberville Par., La.	55
*Ila Michener, Low Banks, Ontario, Can.	5-10
*J. J. Swartwout, Union City, Branch Co., Mich.	5-7
*Dr. B. E. Kinney, Bloomsburg, Col. Co., Pa.	6-9
*W. H. Nesbit, Alphaetta, Milton Co., Ga.	6-9
*Jas. P. Sterritt, Sheakleyville, Mercer Co., Pa.	6-8
*J. S. Canthen, Pleasant Hill, Lan. Co., S. C.	6-8
*J. C. Deem, Knightstown, Henry Co., Ind.	6-9
*V. W. Keeney, Shirland, Win. Co., Ill.	6-9
J. O. Facey, New Hamburg, Ont. Can.	6-8
*J. T. Wilson, Mortonsville, Woodford Co., Ky.	6-5
E. B. Plunket, Atlanta, Ga.	6-8
*J. A. Bingham, Volant, Law. Co., Penn.	6-8
*R. J. Fox, Natick, Middlesex Co., Mass.	7
*I. M. Kaufman, Belleville, Mifflin Co., Pa.	6-8
Jno. Conser, Glenn, Johnson Co., Kans.	7-1
*J. S. Woodburn, Newville, Cumb. Co., Pa.	7-10
Henry Smith, Brooklyn, Green Co., Wis.	7
*E. B. Beebe, Augusta, Oneida Co., N. Y.	7
*J. H. Reed, Orleans, Orange Co., Ind.	7-9
H. P. Demarest, Warwick, Orange Co., N. Y.	7
*S. W. Morrison, Oxford, Chester Co., Pa.	7

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La.	7tf
T. F. Wittman, 318 N. 6th St., Camden, N. J.	7tf
S. F. Newman, Norwalk, Huron Co., O.	7tf
Sprunger Bro's, Berne, Adams Co., Ind.	3-2
J. F. Hart, Union Point, Greene Co., Ga.	4-3
Nichols & Elkins, Kennedy, Chaut Co., N. Y.	6-11

KIND WORDS FROM OUR CUSTOMERS.

SMOKERS.

THE smoker arrived Saturday, all right. I have been using it to-day, and find it just about perfection. I don't know how I ever managed to do without it.

J. P. MILLS.

Mill's Mills, N. Y., June 7, 1880.

Send me another Simplicity smoker. I want it for one of my neighbors. I showed him mine, and when he saw how *nice* it worked, he gave up that the Simplicity is the *best*.

H. D. NORWOOD.

Dundas, Minn., May 29, 1880.

I got a smoker from you last summer, which gives good satisfaction. It makes bee handling almost a charm. I would not like to be without it any more.

ISAAC L. KULP.

Danboro P. O., Bucks Co., Pa., June 16, 1880.

The smoker is as complete an invention as I ever saw. I had to laugh when I saw it; I would not take for it twice the money it cost me.

F. L. SURICK.

Wilmoth's, W. Va., June 6, 1880.

I received your cold blast smoker, and like it very much better than I do the Bingham smoker, including price. As I was transferring a swarm the other day, an old bee-keeper came along and asked me what that was. I told him. He laughed about it, but I told him to wait and see it work. He did. When I got through, he requested me to order him one. So here it is. * * * * *

P. H. WALKER.

Manchester, Vt., June 4, 1880.

COUNTER STORE GOODS.

Box of tools, scales, etc. received all in good order, and entirely satisfactory. I only wonder how you *can* get up such a collection of useful things for the money. The ten dollar lot would cost here nearly fifty dollars.

J. E. JOHNSON.

St. George, Utah, June 10, 1880.

[Thanks, friend J. The secret of selling these things so low, is in buying of the manufacturers in gross lots or still larger, and in then selling to you at a single profit. This single profit is also made small, by having the goods all put up by boys and girls, or comparatively cheap help. They love their work, and are trying hard to learn accuracy and fidelity.]

DRONE FDN.

The drone starter fdn. received from you was just "boss;" it was the nearest to my idea of perfect fdn., of any I have seen my good fortune to see. The wax was soft and pure, while the base of cells was the thinnest I have seen, and side walls high enough for starters.

C. H. CHAPMAN.

Easthampton, Mass., May 31, 1880.

The 2 lb. of fdn., by mail, at hand. Thanks for being so prompt. Not a single sheet was broken. I will order 20 lb. by freight or express.

E. J. ATCHLEY.

Lancaster, Tex., May 20, 1880.

The GRIND STONE came all right, and it is just splendid.

S. G. MOREHOUSE.

Loveland, Iowa, June 1, 1880.

EXTRACTOR was received yesterday morning, in good order. I extracted 184 lb. of honey before evening. I am very much satisfied with the machine.

Olmstead, Ill., June 15, '80,

M. KUEHNE.

IMPORTED QUEEN I purchased of you last fall is a good queen, though not very bright colored. I can handle her bees without smoke. I have taken from her 24 lb. of honey (ext.), three frames of brood, and two strong nuclei on four frames (7 frames in all) and it is now a strong colony.

R. J. FOX.

Natick, Mass., June 2, 1880.

All the 10 QUEENS arrived here in good health and spirits, and tender you their thanks for the fine accommodation on the road. Every thing was all right.

H. SONTAG.

Cucamonga, Cal., June 16, 1880.

[These were dollar queens, ten of them by mail in the tin bottle cages.]

I received my HIVES May 10th, and am well pleased with them. They go together first-rate. The lumber is better than I thought it could be for that money. Please accept thanks.

J. F. TAFT.

Millville, Mass., June 6, 1880.

The goods received all in splendid order. I must praise your mode of putting up goods for shipment light and compact. Every thing fitted O. K. when putting together. Before I received the goods, I was almost tempted to growl; but, remembering your advice to order in time, I dared not do it. But after the goods were here, I had to smile; could not help it.

JOEL HEYDT.

Ashley, Pa., June 23, 1880.

The PARKER MACHINE is a complete success, and is worth \$5.00 to any one who uses fdn. in section boxes, and keeps 50 swarms of bees.

Hudson, Mich., May 31, '80.

J. C. DICKINSON.

Everything ordered of you is here. The BEES came this morning, and, although I was beginning to get a little nervous over delay, I am ready to shake hands with you now. The bees are beauties, and came through nicely, not a dozen dead bees in all.

W. A. STEPHENS.

Jersey Shore, Pa., June 10, 1880.

The goods I ordered of you, I am happy to say, came safe and all right; except you sent all-one-piece sections instead of one thousand of the old kind, as I ordered. That makes little difference, as they seem to work well, and have a beautiful appearance. There is very little honey so far.

Delaware, O., June 18, 1880.

W. T. ROPP.

Those BEES came all right, and are working and doing splendidly.

E. CARTER.

Loveland, Ill., June 21, 1880.

Please take out my ADVERTISEMENT offering 200 colonies for sale; I have sold nearly all I had to sell in colonies.

P. L. VIALLO.

Bayou Goula, La., May 12, 1880.

A B C OF BEE CULTURE.

I beg to acknowledge receipt of "A B C of Bee Culture," with which I am much pleased. It contains a large amount of valuable information, and its handsome appearance will adorn my library.

DR. L. F. BURROUGHS.

Quebec, Can., May 28, 1880.

I wish you knew how highly I value the A B C book I got from you.

ED. SUDDUTH.

Stony Point, Bourbon Co., Ky., June 7, 1880.

I have just received my "A B C of Bee Culture" and I am well pleased with it. I would not take \$5.00 for it if I could not get another.

E. S. TUTTLE.

Millsprings, Wayne Co., Ky., April 23, 1880.

I have your "A B C of Bee Culture," and think it the greatest work on bees I ever saw.

E. L. LOFTIN.

Denver, Lincoln Co., N. C., May 17, 1880.

Your "A B C in Bee Culture" is the best bee history that I have ever read, and I have read a good many different ones.

FRED. G. MIELKE.

McFarland, Dane Co., Wis., May 1, 1880.

Contents of this Number.

Alfalfa.....	316, 324
Basswood, Time of Blooming.....	317
BEE BOTANY AND ENTOMOLOGY: Red Bud.....	325
Bee Culture, Improved, Educating the People in.....	325
Bees; Are they Able to Strain the Water from	
New Honey.....	307, 318
" by the Pound.....	315
" In Garrets.....	311
" That are Small Eaters, a New Trait.....	324
" The Finest Swarm in Texas, and What	
Came of it.....	318
" When did They First Come to America?.....	311
BLASTED HOPES: White Clover not Yielding	
Honey.....	313
BOYS' DEPARTMENT.....	323
California Bee-Keeping.....	324
Combs, Empty, Utility of.....	320
D. A. Jones: His Trip to Cyprus, &c.....	308, 310, 320
EDITORIAL.....	306, 310, 321, 340, 347, 348.
Foul Brood, How they Exterminate it in Utah.....	322
Geo. Grimm; Report From.....	310
Grape Sugar, Feeding.....	307, 334
GROWLERY.....	345
HONEY COLUMN.....	310
Honey from Corn; from Cotton; A Barrel of	
from one Swarm in one Season.....	314
" from Tulip.....	310
HUMBUGS AND SWINDLES: Mrs. Cotton; Mitchell.....	317
Lippia Nodiflora.....	324
Louisiana; A Talk from One of her Bee Men.....	314
Maryland; A Report from.....	310
Notes from the Banner Apiary.....	307
" " North Shade Apiary.....	322
Our Own Apiary, Honey Farm, and Factory.....	315
Painting Hives.....	319, 328, 332, 340
Queen Cells; How to Obtain Plenty of.....	322
Rape.....	317
SMILERY.....	313
The "Golden Bee Hive".....	319
Thistles, and Something about Other Weeds.....	314
Separators, Wire.....	326
Wintering in Cellars.....	326

INDEX OF HEADS OF GRAIN, NOTES AND QUERIES, AND OTHER SHORT ARTICLES.

A B C Class, Rapid Increase		Moth in Empty Comb.....	329
by one of.....	332	Palmetto Honey.....	339
Alighting Boards.....	334	Patents, Buying.....	330
All is Well that Ends Well.....	330	Planers, The Lilliputian.....	331
Ants.....	329	Queen Cells, Trouble in Get-	
Bee Candy, Lazy Man's.....	332	ting.....	329
Bees, as Well as Bee-Keep-		Queens, Cyprian.....	337
ers, Notional.....	337	Dead in Front of	
Bees, Do they Sleep.....	335	Hives.....	338
" Enlarging the Race by		" Dollar, a Misnomer.....	337
Crossing.....	330	" Great Number From	
" How they Lived in the		Natural Swarming.....	327
Ark.....	330	" Introducing.....	329
" That Don't Know		" Red-Clover.....	327
Enough to Go In		" Retarded Develop-	
When it Rains, and		ment of.....	333
the Remedy.....	337	" Taking before Swar-	
Colony that Won't Rear a		ming.....	331
Queen.....	336	" Unfertile, Not Mar-	
Comb Holder for Chaff Hive.....	331	ketable.....	321
Combs Filled with dead bees.....	338	Radishes for Bees.....	329, 331
Conventions.....	348	Red Clover.....	337
Division Boards; their Use.....	328	Robbing, Look Out for.....	338
Drones and their Purity.....	337	Sections, All in one-piece.....	335
Drones Wanted.....	336	Simpson Honey Plant.....	331, 339
Dysentery, Agency of Pollen		Sourwood Honey.....	328
in Producing.....	333	Smokers, Fuel for.....	334
Eggs, Many in One Cell.....	334	Spider Plants.....	331
Foul Brood; Improved meth-		Starving Bees in June.....	339
od of using salicylic acid.....	330, 333	Stopping Journals.....	328
Fdn. for New Swarms.....	328	Strong Stocks versus Chaff	
Fdn. Given's Press for.....	331	Cushions.....	334
Fdn. Porcelain Plates for.....	327	Substitute for Wire Cloth in	
Frames, How Many in Up-		Extractors.....	328
per Story for Extractor.....	331	Swarm Catcher for Issuing	
Hives, Tenement.....	334	Swarms.....	332
Holly Honey.....	328	Swarming, Prevention of	
Honey Fit for Kings.....	333	Retarded.....	339
Honey, New.....	337	Swarm, New, Returning to	
Horse Mint.....	335	Old Hive.....	338
Introducing an A B C Schol-		Swarm, New, Taking the	
ar's.....	327	Whole Hive.....	327
Locust Planting.....	333	Swarms Absconding.....	339
Milkweed Pollen.....	329	Tool Boxes and Tool Chests.....	339
Mrs. Cotton's Hive.....	328	Yucca, or Spanish Bayonet.....	348
Mitchell.....	335		

T. F. WITTMAN, Camden, N. J., wants to know who sent him \$3.40 about a month ago.

SINCE there has got to be such a demand for wire cloth, I have succeeded in getting an article that seems to answer every purpose for queen cages, or for shipping bees, for 3½¢ per sq. foot. This is painted green. The ordinary tinned is 5¢ per foot. If wanted by mail, postage will be 3¢.

WE have to-day, June 27th, 4,639 subscribers, and about 250 colonies of bees.

WE shall have to stop using glass entirely, pretty soon, if it don't "subside." Mason's fruit jars are now worth \$16.00 per gross net.

WE can furnish Bingham smokers and honey knives to the trade at wholesale, at his prices. Not less than ½ doz. will be sold at dozen rates. We will send a printed list of prices by the dozen on application.

June 29th.—AFTER the experience of the last 21 hours in having heavy combs break down through the influence of heat and a flood of basswood honey, I am more than ever determined to have all my combs built in the braced wired frames. Then we are all right.

WITH the wired frames, or with the Cheshire "rakes," you can use, if you choose, fdn. so thin that 1 lb. will fill 8 L. frames, and we have a mill that will furnish such without trouble. I believe these make just as good combs, but as the bees have to furnish much wax, they are worked out more slowly. A new mill just finished that makes fdn. much like the Dunham, about 5 sheets to the lb., furnishes nearly enough wax for the whole comb. I do not know which kind is best, but probably the latter where you hang the sheets from the top bar in the old way.

THE FORNCROOK PATENT.

The following is just at hand:

SIR: In reply to yours of the 11 inst., you are informed that a diligent search has been made, and no Patent found to have been granted Forncrook and Co. for One Piece Section.

E. N. MARBLE.

Washington, D. C., June 23, 1880. Commissioner of Patents.

I suppose we should exercise a good deal of charity, until we give friend Forncrook a hearing, but, at present, it looks rather bad. I do not know that we should be a great deal surprised, for we have had the same thing over and over again, by almost all who claim patents on bee hives and bee fixtures. I sent the Commissioner the advertisement just as it appeared in GLEANINGS last month.

DECLINE IN PRICES, ETC.

It is so much fun for me to tell you when things are lower, that I do not know but I am in danger of selling too cheap sometimes. Separator tin, 14x20, we can now furnish for \$5.50 per box. Wire nails are down quite a little, and other nails are away down. Our new price list will give you the figures; at any rate you will have the advantage of the drop in any orders you may send us. Glass is still up awfully. The very low rates on the counter goods render it absolutely necessary that advances should be made with the market. Where the profit is very small, it hardly admits of taking the time for explanations. Will you not remember the note at the head of the list, and bear in mind that I never make an advance if I can possibly help it? I have been obliged to raise thermometers to the 15 cent counter, because of the breakages in shipping; but they are of the best Kendal make. Those pretty little magnets at 5¢ cannot be had any more at that price, so we sell larger ones at 10¢.

ADDITIONS TO THE COUNTER STORE.

5¢. COUNTER.

6 Milk Pans, toy, ½ pint, 2 for 5¢.....	25	2 00
7 Pen Racks pretty and useful.....	42	4 00
7 Letter file and Paper weight combined, very pretty.....	45	4 25

10¢. COUNTER.

13 Match safes, double, pretty and useful.....	85	8 00
1 Lead Pencils, red and blue, large.....	65	6 00
10 Baking tins oblong square heavy.....	70	6 50

15¢. COUNTER.

3 Perfumery Wencke's genuine.....	1 30	12 00
62 Wash Boards Serpentine Zinc a good article, that usually sell for 25¢. or higher.....	1 30	12 00

25¢. COUNTER.

6 Oil Stone Saws, the best.....	1 70	16 00
---------------------------------	------	-------

1.00 COUNTER.

Axe fine steel, extra make and finish.....	9 50	92 00
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GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

JULY 1, 1880.

No. 7.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 Per Annum, in Advance; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75c each. Single Number, 10c. Additions to clubs may be made at club rates.

NOTES FROM THE BANNER APIARY.

No. 8.

FEEDING GRAPE SUGAR.

A YEAR or two ago, when the controversy in regard to using grape sugar (or "glucose," as its enemies persisted in calling it) was at its height, there appeared a few articles upon the subject that caused me to rise from my seat, and start for my little book-case, where I keep my writing materials; I had such an "itching," clear down to my finger tips, to answer some "fiery tirade;" but second, sober thoughts always came to my rescue, and, after a little consideration, I always came to the conclusion that, perhaps, I knew as little about the subject, by actual experience, as the writer in question, and I would better keep still. As I have now, however, used a barrel of grape sugar, I do know just a little about it, and it is with pleasure that I step forward as its advocate.

After the basswood honey harvest closed, the young queens would not begin laying until they were 12 or 15 days old, and, in order to induce them to lay sooner, I began to think of feeding the bees grape sugar. I hesitated several days before deciding to try it, but I finally ordered a barrel of it. To feed the sugar, I broke it up into half gallon fruit jars. The jars were then filled with water and inverted upon a grooved board, as described in the A B C.

When I first began feeding the sugar, I had between 30 and 40 young queens that were old enough to lay, some of them being 17 or 18 days old; queens were hatching every day, and there was no place to put them; orders were coming in every day, and there were no laying queens with which to fill them; but the grape sugar helped me out of all of these troubles, for within three days after I began feeding it, I filled orders for two dozen queens.

I expected, of course, that feeding the sugar would start the young queens to laying, but I had no idea that it would put such life and animation into every department of the apiary. The combs in every hive filled up with brood in a manner that was astonishing; about 60 frames of fdn., on which the bees had quit working, and which I had stored away for use another season, were drawn out into nice combs and filled with brood; and I could open

a hive without being troubled with robbers, as they were all busy at the feeders.

The feeding seemed to secure all of the advantages of a good yield of honey, except that it cost something, and there was no surplus honey.

I tried to feed so little that none would be stored in the combs, but, in preparing the bees for winter, I found quite a number of combs that were "solid" with grape sugar. Some of these combs were left in the hives, and some were taken out, hung in empty hives, and set out of doors where the bees could "grub" away at the grape sugar whenever they chose. Upon pleasant days they worked upon it quite freely; and, by the time the weather was too cold for them to fly, they had carried nearly all of it away. In taking it out of new combs, they quite frequently tore down the combs, or, at least, tore down the side walls, and sometimes made holes clear through the combs. Where they were too badly "riddled," I cut out the damaged places, and filled them with comb cut from some other frames. Combs that had contained brood were seldom injured. Upon repacking the bees in the spring, I frequently found combs that contained grape sugar. These were hung in empty hives, and set out of doors, and, by the 1st of June, all of the sugar was carried away.

I have never tried the grape-sugar candy, but intend to do so the coming season.

Whether it would pay any one who wished to run his apiary for honey alone, to feed grape sugar, I cannot say; but, if one wishes to rear bees or queens for sale, it certainly pays.

Although my bees wintered finely, I should consider it very risky, if not impossible, to winter bees upon grape sugar alone.

A word in regard to spoiling the sale of your honey, by feeding grape sugar. Every neighbor and visitor who comes here is shown the grape sugar, and the manner of feeding it, and is told why it is fed, and the impossibility of its getting into the surplus honey, etc., etc., and, instead of losing the sale of my honey, the demand for it is steadily increasing.

BEES VOIDING WATER WHILE UPON THE WING.

When I was feeding grape-sugar syrup, last autumn, by placing myself in such a position, in the afternoon, that the bees passed between myself and the sun, I could see almost every bee discharge a

small "shower" of liquid, as it passed between the hives and the feeders.

I have just finished reading GLEANINGS for June, and, when I see how much some others are doing for the bee-keeping cause, it makes me feel very little and humble; and, after reading some of the articles, it seems as though my "first page" was about the poorest part of the paper. I usually have such a feeling for several days after reading a No. of GLEANINGS, until I recover from the shock of receiving so much information.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

D. A. JONES, AFTER HE GOT HOME.

SOMETHING NEW IN THE FOUNDATION BUSINESS.

I HAVE just got home and got my queens safely introduced, and as soon as they commence to lay, I will begin shipping to parties ordering them. The price of Cyprians will be from ten to fifteen dollars for this first shipment, according to their grade, some appearing finer than others; also the price of the "holy queens" or queens from Palestine and Syria, will be the same; but I expect two hundred more soon, and will try to sell them cheaper, or as low as they can be sold, after paying the cost of importing them, when the dead ones are taken into account. I will write you giving a more complete history as soon as I can. Now I have something of great importance to tell you, and hope you will put it in the July journal, even if you crowd out other matter.

Three cheers for C. N. Abbot of the *British Bee Journal*! He has made foundation on wood a success. I saw it in his yard while I was giving my bees a purifying flight there. Mr. Abbot is a live, progressive bee-keeper, chock-full of new ideas, and constantly trying new inventions, and is fast bringing up bee culture to a high standard in England.

I send you a piece of the foundation. I saw it in his hives all capped over, with the beautiful worker brood, some hatching, and some in every stage from the egg up. Mr. Root, I wrote you years ago that I was sanguine about wooden foundation, but you discouraged me by saying the wood would warp. Mr. Abbot's does not warp, and you, perhaps, tried the wrong kind of wood. The combs must be put very close until the bees get the cells started, and then they can be set the usual distance apart. If put the regular distance apart at first, the bees sometimes build in pieces. I have a comb, of the Langstroth size, all drawn out and filled with eggs in a few hours. It is a beauty; no warping, no sagging, and it can not be broken out or melted down. Is not that just the very thing for the brood chamber? People in America should take the *British Bee Journal*, so they would know what our good, English, brother bee-keepers are doing across the briny waves.

But this is not all. Just as I was about to start for Canada, I received a friendly visit and flattering welcome from the British bee-keepers, and what do you suppose was my astonishment, after I had given them some hints in bee-keeping, to hear a Mr. Cheshire say that he had just invented a new process of putting in comb foundation and preventing sagging, without the trouble of rolling wire into the foundation; in fact, so that it could not sag or fall out, even though it were only half as thick as founda-

tion usually is. I saw him put in a sheet of fdn., full Langstroth size, in five seconds, and I tried my best to shake or jerk it out, but I could not stir it. I send you the arrangement, and you can describe it yourself. The bottom of the wire should be bent to fit the depth of the frame, the same as the top. Have a board to fit inside the frame, and just thick enough to let the foundation rest in the middle of the frame, then drop in the foundation full size, hook the wire across from top to bottom, pat it with your hands to drive the points through the foundation, and space them about 3 in. apart, say five to an L. frame. In twelve hours you can remove them, and the comb will be fastened all around, and the cells drawn out. One set of wires will last a life time.

HOW TO MAKE THEM.

Saw several creases in a board, and lay in your wires; then saw cross creases for pins; lay the heads on the wires and solder them as fast as you can touch them; then have a board of the right thickness with holes bored in it at right distances apart to let the pins stick through, and, with the scissors, cut off all down even with the board. You can make them to suit any depth of frame. You see it is a ladder for the bees to climb up on, and the up and down wire is just far enough out from the foundation to admit of the cells being drawn out.

Now, friend Root, I must leave the invention for you to make clear to the readers of GLEANINGS, as I must write to other journals, and let all our brother bee-keepers get the benefit of it. You will be astonished at the simplicity of this arrangement, and its value to bee-keepers, so I neglect a description of my own journey and bees, to give this to the public at once.

I found on my return, that you had credited me with ten dollars for writing you from Palestine. You have no right to pay me that, as I wrote it for the benefit of the readers of GLEANINGS, and you could receive only the four thousandth part of it, and I refuse to accept the ten dollars without giving you its value; so I will send you a fine queen from Palestine for the amount.

I have expressed to your address a sample of wires, and also a sample of foundation on wood. I will also send you a sample of drones and workers in alcohol that will make you swing your hat. Please don't have them melted up into gold coin. Any orders for either Cyprian queens or those from Palestine and Syria, which may be entrusted to you, will receive my prompt attention.

Beeton, Can., June 18, 1880.

D. A. JONES.

Here is something from Mr. Langstroth, on the same subject that occupies so large a part of friend Jones' kind letter:

Mr. A I Root:—I enclose an article which I copied for you, at the request of Mr. Langstroth.

Oxford, O., June 21, 1880.

LYNN BOULCANE.

From *Journal of Horticulture and Cottage Gardener*.

WIRED FOUNDATION SUPERSEDED: NEW METHODS OF PREVENTING SAGGING.

In my last communication on wired foundation I pointed out that the grubs were killed by contact with the metal threads. Further observation has shown me that the loss to the bees, if the wires are not removed, is far in excess of what I had at first supposed, since eggs are almost certain to be laid pretty quickly after the clearing out of the dead remains, the grubs hatching therefrom dying generally after being fed up to half size or a little more. Those who know how greatly profitableness is interfered with by an undue number of drones will perceive the gravity of the evil in this leak of life, labor, and energy. To get rid of the wires is imperative, and my first efforts took the form of endeavoring to remove from below by pincers, but I

was met by two difficulties, one, the loss of form to the comb, the other breaking of the wire. Of the wires, I found it impossible to remove more than one in three, and, since there is but one kind, I believe, of wired foundation in existence in England, none are likely to be much more successful than myself. I had not, up to this time, placed my foundation in the frames as transatlantic authorities recommend, because I felt if this were indeed the only plan, the utility of the wired foundation was disproved "en avance." In short, to give an idea of the involved trouble, let me say that boring holes in the top bar opposite to the wires, clearing away the wax to expose about an inch of these, and then drawing them through and getting ready for insertion in the hive, occupied me twenty-one minutes, a period which practice would not very much reduce, as the thin wires are broken by any rough usage in a moment.

After all this labor, and waiting until the comb was nicely formed, I met the most complete failure: for all the wires but four broke in my attempt to draw them out, and the four which I removed literally crumpled up the comb as you would crumple up paper for the waste-paper basket. With further trials, I met with the same results. No wonder Mr. Betsinger, at the North-Eastern Convention of bee-keepers held last February, said, "A year ago, at the national convention at New York, I offered \$50.00 to any one who would present me with a square foot of foundation on wires that was perfect; but no one has done it."

Without at present making more than a passing reference to the unnaturalness and waste involved in the flat-bottomed cell, a matter which I wish to look at from its mathematical side another time, I am pleased to be able to say that I have had success in some experiments I have been trying, which must deliver us, if nothing more, from any necessity for wires or flat midribs.

Glue as most of us know can be used successfully in fastening combs. Taking my cue from this, I at first tried some fine sewing cotton drawn in thin glue, which I placed on the face of the foundation in perpendicular lines about $\frac{1}{16}$ in. apart, and gently passed the finger along it to bring it into contact with the incipient cell walls, and when dry placed it in the center of one of my strongest stocks, a position which would certainly have caused half an inch elongation in the sheet, if untested. The bees worked it beautifully: no sagging occurred, but, contrary to my expectation, the bees were unable to attach the glued cotton. They built it into the fronts of the cells near to the base of course.

As the comb was half built pulling out the cottons tore away little of the walls of those cells through which they passed, which the bees in an hour or two repaired perfectly, and we were already altogether ahead of wired foundation, the labor not being one tithe of that involved in drawing out, or rather trying to draw out the wires, leaving the troublesome fixing in to the frames out of view. The cell bases, in properly formed foundations, are never perpendicular, but the weight of wax and bees is constantly tending to bring them into this position, hence the sagging; but the cottons acted as the bow string on the bow, and prevented the points of attachment from receding from each other. The bean ideal, it appeared to me, would be reached, could we find something that the bees would remove as the comb progressed. To this end, I have been, and am still, experimenting with hair, raveling cotton, silk and thread fixed with gum, glue, wax, shoe-maker's wax, and varnish, and have so far succeeded that it is only now necessary to ascertain which fiber and fixing are uniformly most desirable. Any of these, it seems to me, pressed into the comb during its manufacture, must fail unless flat bottoms are used, because as the fiber runs to the right or left of the perpendicular in every cell diameter, it simply without stretching assumes a straighter line as the comb drops, without in any way sustaining it. I will report further of my experiments in the future. But another plan has given me perfect results, and this is, I believe, likely to be very largely adopted. I soldered five pins by their heads into a strip of fine brass wire at intervals of about an inch or little more, and then turned the wire at the end to a right angle, so that the arrangement looked not unlike a tiny rake head with six teeth. Half a dozen of these were prepared, and when the foundation had been waxed in, and the pins all out of the way, a pin in length, the turned ends of the wire went over the top bar at regular intervals, and the pins were pressed into and through the foundation as it stood on the board used in waxing. The whole was lifted and so firm was it that while the frame was held horizontally the foundation kept its position. It was given as before to a strong stock.

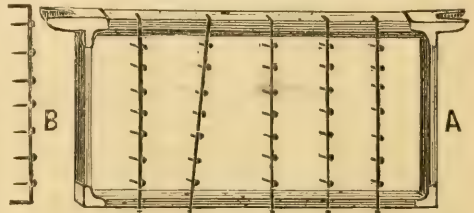
When half worked, the little rakes were removed, and the five holes each left were invisible in an examination made half an hour afterwards. The comb is most perfect, with no disposition to turn at the corners—the one fault of all foundation I have ever seen, the rakes preventing any movement.

I can only add, I shall name these wire attachments "foundation rakes." FRANK R. CHESHIRE.

Avenue House, Acton W.

Many thanks, friend J. The fdn. on wood is not exactly new. We have had beautiful combs built on wood; some were built last season; and, if you recollect, I gave an account of the experiments about a year ago. One edition of the A B C gives the result of the experiments fully, but it was afterward taken out, as the great amount of wax necessary to make the cells on a smooth board, I consider an insuperable objection. I have used indented boards, but even then, the brood is separated and the combs made so much heavier than pure wax combs, that I cannot see how it can come into general use. The sample which you so kindly sent us is much thicker and heavier than what we used. We had no trouble with the warping,

I mentioned last season that our boys objected to the wood bases, because they could not cut out queen cells. We have 25 copies of the *British Bee Journal* each month, and friend Abbot has also had the result of our experiments through GLEANINGS. Mr. Cheshire's idea is certainly new, and I am inclined to think will be thankfully received by a great many. You will notice above that we had news of the same, through friend Langstroth; the two letters came in the same mail. Some of the little "rakes" were made very quickly, by soldering 6, $\frac{3}{4}$ wire nails on our ordinary transferring wires. One of the "rakes" is shown below, and also a full set, in place, on an L. frame.



CHESHIRE'S INVENTION TO HOLD FDN.

One of the wires you will notice is put on a little sloping; we can do this to tighten them, should the frames vary a little in size. Several of them were prepared and put in the hives, right in the height of basswood, and while a few of them warped away from the wires and sagged a little, the experiment, on the whole, was a success. You can have your sheets cut so as to fill the frames, and have a full frame of perfect cells every time, and no danger from sagging. We can furnish the wires, as shown in the cut above, all ready to put in the L. frames, for \$1.00 per hundred; by mail, 15c. per hundred extra. We prefer the wired frames shown in our price list for our own work, because all of the combs used in our apiary are liable to be shipped at any moment, and we cannot have combs breaking down. We also want combs made so that neither the top nor the bottom bar can sag with any weight of honey, and want them to be, at the same time, just as light as they possibly can be. For all these points, nothing can equal our braced wire frames.

Now in regard to friend Cheshire's remarks: He is most assuredly mistaken if he means to say that our fine tinned wire kills the larvæ. We have solid sheets of brood right over the wires, and after the first set has been hatched out, the wires are so covered with cocoons that they are no longer visible at all. Betsinger's offer was passed by because most of us were too busy to take up such an offer, even if we felt so disposed. We do not want anybody's \$50.00. Mr. Cheshire, your experiments are most valuable, and the united world of bee-keepers owes you its thanks. Most of your experiments, I have gone over in past years, but the little "rake" is entirely your own invention; the nearest approach to it I have ever heard of was given several years ago in GLEANINGS, where R. S. Beckett used little strips of wood which were afterward pulled out.

Friend Jones, if you will take no pay for your articles, how shall I reward you? I will say to our readers that we have ordered both Holy Land and Cyprian queens, and to keep them as pure as we can, we shall keep each in isolated apiaries, at a distance from blacks and Italians. The prices for dollar queens from them, which we hope to have ready to send off in August will be just double that of Italians for the present.

The following was copied from the *Beeton Chronicle*.

FROM CYPRUS.

ARRIVAL OF D. A. JONES, ESQ. ENTHUSIASTIC WELCOME.

On Tuesday morning it became known that D. A. Jones, Esq., the famous Apiarist, was to arrive home that evening, after an absence of five months on the continents of Europe, Asia and Africa, whither he went for the purpose of procuring colonies of the Cyprian and other bees for importation to America, and almost every citizen made it a point to be present at the reception of the man "whom Beeton delights to honor." Long before the arrival of the train crowds had assembled at the depot, anxious to catch a glimpse of the subject of their welcome. The Independent Brass Band had stationed itself on the platform, and, as the iron horse steamed into the station, struck up a welcome air, which was followed by loud and prolonged cheering and the loud report of fog signals, and as Mr. Jones stepped off the train, cheer after cheer rent the air. Mr. Jones was greatly affected. As he was taken by surprise he was unable to say anything. He was then driven to his residence in a carriage which was awaiting him, the band leading, and an immense crowd following in procession, and as they entered the village report after report from some old "Queen Ann's" could be heard. The welcome was enthusiastic and every person felt they could not make enough of their townsman. On arriving home Mr. Jones made a short speech, thanking the citizens and the band for their kindness in welcoming him back. We visited the gentleman the next day and found him as courteous as ever and received the usual hearty shake of the hands. He expressed himself happy to be once more at home. Notwithstanding the amount of travelling he has done and the many trials he has had to encounter, he looks as full of life as ever, though somewhat reduced in weight. He showed us the innumerable curiosities he gathered in his travels, a description of which we shall give our readers in a future issue. The bees which he has imported are larger and in many other respects superior to the Italian, and he has had the good fortune to lose none during the voyage. He brought here over one hundred colonies and has sale for all. At London, Eng., Mr. Jones met with a flattering reception. Owing to his being fatigued we did not intrude on him by a prolonged conversation. However we will furnish further particulars in next issue.

REPORT FROM GEO. GRIMM.

BEES have had a hard time of it until now. Many have starved in this vicinity, and many more would have followed their example had not feeding been resorted to. During last winter, I lost nearly 5 per cent, and have now about 430 swarms left, nearly all in very good condition. Up to the 14th inst., I was feeding; now they make a living, but no more. Still swarms are coming daily. Three days rainy or cool weather would see me feeding again; or one week of very good weather might see me taking off surplus honey. Basswood will be out in about two weeks. GEO. GRIMM.

Jefferson, Wis., June 22, 1880.

GOOD FOR MARYLAND.

ALSO SOMETHING ABOUT HONEY FROM TULIP.

MY best hives are giving me about 90 lb. of honey to date, which I am selling as fast as I can take it to market, at 20c. per section ($4\frac{1}{4} \times 4\frac{1}{4}$), about 1lb. each. Some of the honey drained into a tumbler, can't be distinguished from loaf sugar dissolved in spring water until the same consistency is reached, and placed side by side. This is only as to color, of course. I can't find out where it comes from, as some of it was sealed over May 25th, and it is still coming in, and laurel bloom is over, and blue thistle just commencing. Can you suggest the plant? If you will pull from the tulip tree some evening, a bud which is just opening, and put it in a

glass of water over night, the next morning your doubts as to its yielding honey will be dispelled, I fancy; and, as to quantity, your spider plant will have to step down from the head of the list.

F. DELLA TORRE.

Reisterstown, Balto. Co., Md., June, 1880.

Honey Column.

Under this head will be inserted free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away, to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25cts., we can furnish little boards to hang up in your door way, with the words "Honey for Sale" neatly painted. If wanted by mail, 10c. extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CINCINNATI.—Honey.—Prices nominal at last quotations with not much of old honey on the market. Arrivals of new are small, and equal to the demand. Extracted Honey 6c. per lb. on arrival.

Beeswax.—Scarce and in good demand at 20@25c. a lb. on arrival. C. F. MUTH.

Cincinnati, O., June 22, 1880.

ST. LOUIS.—Honey.—Strained, 7 @ 11c.; Extracted, 11 @ 13c.; Comb, dark to choice bright, 11 @ 20c. as in quality.

Beeswax.—Steady at 20 to 21c. for prime to choice. To-day, June 24th, we had to pay 22 @ 23c. for Choice to fair honey. R. C. CREER.

No. 117, North Main Street, St. Louis, Mo.

NEW YORK.—Honey.—Best white combs, small, neat packages, 15 @ 16c.; Fair, ditto, 1s @ 14c.; Dark, ditto, 10 @ 11c. Extracted, white, 8 @ 9c.; Golden Rod, 7 @ 8c.; Dark, 6 @ 7c. The demand is light for all grades, and the shipments of Cal. accumulating will still more depress the markets.

Beeswax.—Crude, 23 @ 25.

New York, June 24, '80.

A. Y. THURBER.

CHICAGO.—Honey.—In fair supply, but the demand is meagre and sales slow at 14 @ 16c. per lb. for choice to fine comb, and at 10 @ 12c. for common to good.

Beeswax.—Is in fair demand, and steadily held at 20 @ 22c. for common dark to only fair stock.

The Chicago Times, June 22, 1880.

As yet no one has reported having any new honey for sale.

CIRCULARS AND PRICE LISTS OF BEE-KEEPERS' SUPPLIES RECEIVED DURING THE PAST MONTH.

SINGLE LEAF CIRCULARS.

Advertising Italian bees and queens, are received from D. C. Underhill, Seneca, Ill., and Jas. H. Reed, Orleans, Ind.

TWO-LEAF CIRCULARS.

W. B. Coggeshall, Hill Side Apiary, Summit, Union Co., N. J., offers queens and smokers.

W. D. Parker, Defiance, O., offers hives and their furniture, Parker's fdn. fastener for sections, and Extractors.

A SMALL FOUR-LEAF CIRCULAR

Offering Italian bees and queens, Smokers, and Langstroth hives, is neatly got up by Chas. H. Lake, Baltimore, Md.

FRIEND R. C. Taylor, Wilmington, N. C., has made us happy by the present of a real, live, Venus fly-catcher, the plant described in our botanies, and which we learn is found only in this one state in the Union.

BEES IN GARRETS.**A "BIG" BEE HIVE.**

A FARMER, by the name of Shadrach Chaffin, living near Sciotoville, Scioto Co., O., bought a hive of bees (blacks) about the year 1845, and put them up in his garret, at the end of the room, 2 feet from the end, and 4 feet from the side wall. Thus they were situated toward one corner of the room, near a window in the centre of the end of the garret. The building is an old style farm house, over two stories high. At the side of the garret, it is about 3 feet from the floor to the roof, and the room is ceiled all over, up the rafters and all. The bees worked out of a broken pane in the window. They have never been known to swarm. After a number of years, the whole pane of glass had to be taken out to give them entrance room. The hive was set on a bench about two feet from the floor. An eye witness tells me that he "robbed" these bees for his uncle about 15 years ago, and they had then built their comb so as to entirely hide the old hive. They had built from near the window from floor to rafters or ceiling, and had about filled the corner of the room from floor to ceiling for *twelve feet* in length along the side of the room. He took about two barrels of honey from them, and said he could merely miss it from the mass of comb. My informant said, on a nice day the bees streamed out and in at the window just about as fast as they could. When they killed their drones in the fall, the ground under the window would be covered with them for yards around. I asked him in reference to the honey plants of Scioto. He said that persimmon, sourwood, and black gum abound; also basswood and white clover. The main facts in this narrative can be proven by many witnesses, or these bees can be seen by going to Mr. Chaffin, near Sciotoville, six miles, I think, from town.

Question: Are there not, of necessity, many queens in such a hive as this? Do you suppose they work in concert? or does each queen have her own separate work? I don't think this the best way to keep bees, but something of value may be suggested to us by it.

P. BOLINGER.

Salem, Richardson Co., Pa., June 4, 1880.

The case you mention, friend B., is by no means an isolated one, unless it be a fact that there are two or more swarms in this same garret, which I think not very probable, although not impossible. Two or more swarms will work through a common opening of the size of a pane of glass, and usually without any disagreement. The queen, in this case, is perhaps an unusually prolific one, and the stream of issuing bees, from its elevated position, looks larger than it probably is. As the arrangement has so far prevented swarming, at some seasons of the year the number of bees in the one colony would be very great, and with unlimited stores a great amount of brood would often be raised. A similar garret was located near us a few years ago, and the bees had the reputation of never swarming, and of robbing all the hives in the vicinity. I told them they were liable to swarm, at any time, and, even though they had been there for years, the colony might become queenless, at any time, and be lost. The very next year after this it sent out several swarms, and finally

became queenless, and was destroyed by the worms. It is a little singular that we find so many such cases, where the bees have held out so great a number of years, entirely without care, and it seems to suggest that some features of the plan might be of value, if properly worked out; but, as the house apiary experiments, which are much the same thing, do not seem to result in any permanent adoption, we can not, as yet, very strongly advise garret bee-hives.

**WHEN DID THE HONEY BEE FIRST
COME OVER TO AMERICA?**

SOME FACTS, AS WELL AS SOME SUGGESTIONS IN REGARD TO THE MATTER.

MR. ROOT:—By your reply to Mr. Terry, in the May No. of GLEANINGS, one would suppose that you had the impression that the bees which have inhabited this section of country from time immemorial are a foreign race. The evidence tends strongly to show that we have a geographical race indigenous to this section of the continent, extending as far south as Arkansas and as far north as the Hudson Bay Territory, both included. Hartwig, in his account of the fur producing animals of Hudson Bay Territory, says: "The black bear feeds chiefly on berries, grain, acorns, roots, eggs, and honey." (See "Polar and Tropical World," page 315.)

In the May No. of the *Bee Keepers' Magazine* for 1879, Mr. Teter, who writes from Minnesota, says that he has learned from the Indians that wild bees were there long before the bosom of the Great Father of Waters was disturbed by the boat of a white man; that it is two hundred years since the falls of St. Anthony were discovered by the whites, and that the traditions of the Indians fix the fact of the presence of the honey bee there long before that date, &c. After the battle of New Orleans, a Frenchman by the name of La Charity, who had been a freebooter but had received a pardon from Gen. Jackson for assistance rendered in defending the place, fled from civilization, and traversed the country from there to the source of the Missouri River.

He saw wild bees at various places where he went, when the conditions were favorable and timber plenty. In 1830, St. Joseph and Sioux City were trading ports consisting of one hovel and an occupant to each. They bought furs and sometimes honey. In that year, a Canadian by the name of Flory left St. Louis and followed the Missouri River for several hundred miles up from its mouth, dealing in furs; he saw bees at various points along the river, where the conditions were favorable. Tensing, head chief of the Sock Indians, and, for several years, interpreter for General Kearny, saw wild bees in his travels wherever the conditions were favorable. He says the Indians, as far back as traditions reach, have been in the habit of gathering wild honey, and transporting it on their ponies, in sacks made of buckskin, as they do the various kinds of grease that they accumulate when hunting. Mr. H. A. King, in a back No. of the *Bee Keepers' Magazine*, mentions having received an account of a bee marked with yellow, that is quite common in Arkansas.

In 1861, I purchased bees of this race, and, to my surprise, found many of them with a yellow band, interrupted in the middle, in the place where we find the anterior band on the Italian. I have mated

Italian queens with drones of this race, and bred the hybrids *inter se*, for several years, in an apiary by themselves, and the same tendency to assume the color of the German bee prevails here as elsewhere.

These mongrels, notwithstanding they are $\frac{3}{4}$ Italian according to the Dzierzon theory, persist in looking and acting as much like the natives as they do like the Italians. The power of reversion to the color and habits of the primordial species, augmented as it is in the offspring of two races when crossed, is not sufficiently strong to account for the speedy return, when bred *inter se*, of the hybrids of these two races. JEROME WILTSE.

Rulo, Nebraska, May, 1880.

FARIS FDN. MACHINE.

MAKING FDN. BY THE ONE OPERATION OF
DIPPING ONLY.

FRIEND FARIS arrived with his machine on the 11th. He is a tall, slim Virginian, and his honest, quaint ways remind one of the rugged mountains of his own native state. The apparatus that he brought with him is shown at fig. 2, below.

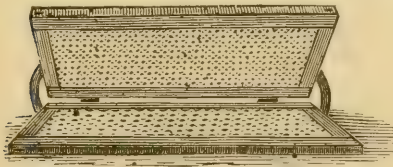


Fig. 2

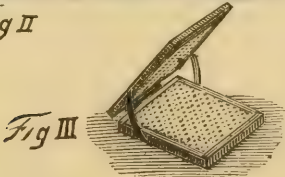


Fig. 3

MAKING FOUNDATION WITHOUT ROLLS.

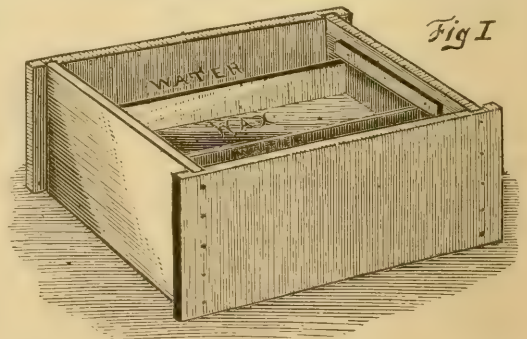
THE DIPPING PLATES.

It is simply two frames of wood, exactly like two slate frames; in fact, I do not know but two slate frames will answer the purpose as well as any thing you can make. They are to be hinged together, with two common hinges as shown in the cut. After they are hinged, fit a board into the lower one, so as to be just even with the lower frame. On this lay a sheet of fdn., large enough to project all around. Now shut down your other frame against it, and clamp it so it cannot move. You are now ready to fill in the plaster of Paris on one side. To make it adhere and leave no air holes, the fdn. must be thoroughly wet with water. This is not so easy a job, as you may imagine. Friend F. has a novel way of doing it, by filling his mouth with water and blowing it out in a spray. He will do this almost as well as a fountain pump. When the sheet of fdn. is perfectly wetted, stir up your plaster in the usual way, and after you have spread it on thinly with a spoon, force it perfectly to the bottom of every cell, with a thin stick, spatula, or piece of tin, as may come handy. When you are sure every cell is fill-

ed with plaster, pour on enough to fill the whole frame. As the plaster sets quickly, you will want some one to help you. Friend Faris says his wife helps him, and very likely he would never have succeeded at all, had it not been for this partner of his in the bee business. Fill it up, and smooth it off nicely while it is soft, and then, when it is hard enough, say in 20 or 30 minutes, turn the whole over, take out the board, and fill the other side in the same way. Now let it dry several hours. Perhaps a whole day will be better. When dry, pry it open carefully, and peel off the sheet of fdn. Attach some leather strips so that the machine cannot open, only about as far as shown in the cut. Fig. 3 shows a similar machine for making starters. Perhaps you would better try your hand on a small one first. I omitted to say that the grooves in the frame that ordinarily hold the slate, are to hold the plaster plates. The grooves in the large frame should be about $\frac{1}{4}$ inch square.

THE DIPPING BOILER.

This is shown in Fig. 1. It is a tight box two feet square and 10 in. deep inside. Mr. Gray made one out of pine boards that would



not leak a drop, without any waxing; and he made it after dark too. If you can do it, you are a pretty good carpenter. This box is to hold hot water. We keep the water hot, by running a steam pipe down into it; but you can do it by having the bottom made of tin, and setting it on the stove, if you choose. Inside of this box is one to hold the melted wax. This can be made all of tin, and be held in its place by a board across each end of it. These end boards must be nailed into the box very securely. Under this tin box there is a space of perhaps two inches for the hot water, to keep the wax melted.

HOW TO WORK THE MACHINE.

This one little item, how to use it, is the main point of Mr. Faris' discovery. Set a tub of cold water close up to your box (Fig. 1). Take the machine by the upper lid, and set it in the box of melted wax. Let the lower plate, while in a perfectly level position, sink just beneath the surface. Now lift it out, still keeping it level, and swing it one-quarter round, so it will sit securely on the sides of the inner box. Now shut down the upper plate, and do it so quickly that the

melted wax just goes out "ker-squash" all around the sides of the plates. Hold the plates tight together with your fingers, and immerse the whole in the tub of cold water. Open it, and there is your sheet of dipped fdn. There is a tough edge of plain wax around the sides, that must be trimmed off as usual. When you first start, it may be well to use a little soap, or soap bark, but very soon the clean water is all that is needed. We started the machine after dark one evening, and, at first trial, two men dipped 15 sheets in 15 minutes. At the next trial, they dipped 18 sheets in 15 minutes. Two pairs of plates were used; one dipped Dunham fdn., and the other, our own. They averaged about 6 sheets to the pound. At this rate, two men would make from 100, to 120 lbs. of fdn. in a day. The next morning, the girls in the wax room heard the result of our experiments, and two of them made 18 sheets of our fdn., trimmed and all, in seven minutes, with the rolls. The same two afterwards rolled and trimmed 216 lbs. of fdn. in a day.

Faris machine is too heavy for the women and children that we employ, and it would be much more expensive for us to make fdn. in this way, at present. Another objection, and it is the most fatal one to the new process, is that during the half hour we worked, one plate gave way, it is thought, through the combined effects of the heat and water. Last of all, the machine, as we used it, spattered wax around the room; I had just come from the saw room, with my clothes pretty well covered with saw dust, and after friend Faris spattered melted wax over me (just little drops) I presented rather a sorry spectacle, I fear. Of course, this can be got along with. The sides of the box can be made higher; but still I fear it will be a spattering job. I think something may be added to the plaster, that will make the plates more durable, but even if a plate does fail, once in a while, it is but a few minutes work to fill them again. The fdn. is soft and porous, and is certainly ahead of any made by rolls.

I paid friend F. \$143.00 for coming up here, and showing me how he does it, and I think he has fully earned it. He has shown us how fdn. can be made, in full sheets, and nice ones, without any expensive machinery. I prefer, under the circumstances, not to make the plates for sale at present, but you can order them from John Faris, Chilhowie, Smith Co., Va., or you can easily make the whole apparatus yourself. It will be improved no doubt, right along, and I should not be surprised at all, if rolls should be entirely laid aside by another season. As soon as I can find a durable apparatus, that will work a little cleaner, I should be glad to offer them for sale.

The following is just at hand from a neighbor of friend Faris:

Since friend Faris' return, I have purchased one of his dipping comb foundation machines. This morning I tested the machine by making 25 sheets, Langstroth, or Simplicity, size. The working of the machine I consider perfect in the quality of the fdn. it makes. The fdn. is beautiful, and there is no doubt but that the machine is a grand success. Sim-

plicity of construction, ease in operation, and cheapness in price, commend it to every keeper of bees.

The sheets can be made light or heavy as the operator of the machine may desire.

I think the bee-keepers of our land may well congratulate friend F. on his success in getting up a machine that is so useful, and is doubtless destined to take the place of all rolls and presses now in vogue.

A. F. BONHAM.

Seven Miles Ford, Smyth Co., Va., June 19, 1880.

DEPOSITORY OF

Blasted Hopes.

Or Letters from Those Who Have Made Bee Culture a Failure.

WHITE CLOVER NOT YIELDING HONEY.

WHITE clover has come, and nearly gone, and not one pound of honey (not even extracted) yet. We have only 50 colonies left out of 128 last fall, and not more than 35 of them are strong enough to go into the boxes. Don't you think this looks a little like blasted hopes? I think it looks like blasted bees to me. We have not had a swarm yet, but basswood is budding nicely, and I hope to produce some honey from it, and be able to give you a better report next month.

HARRY BLACKBURN.

Webberville, Mich., June 19, 1880.

Apparently the season has been very favorable for the bees. They wintered splendidly, and colonies were strong in the spring. Fruit bloom was quite plentiful but rains prevented the bees from gathering all of the honey. Since that time there has been plenty of rain, but not enough to injure anything. White clover is strong and in full bloom; still the bees are in a starving condition. I have not heard of a swarm in the country. Won't some one tell us why this "is thusly?"

E. A. GASTMAN.

Decatur, Ill., June 19, 1880.

This is "thusly," friend G., I presume, because white clover, like most other plants, at times fails to secrete honey. Whenever you find the tubes of the red clover pretty full of nectar, you will usually find honey coming in. I am inclined to think that as much honey is obtained from red clover here, as from white. Be of good cheer, my friends, feed, if need be, though right in June; and before you know it, honey will come with a rush that may find you unable to make room for it all.

The "Smilery."

This department was suggested by one of the clerks, as an opposition to the "Growlery." I think I shall venture to give names in full here.

THE queen came to-day, safe and sound. I must say it is a pleasure to deal with you. I know it was not the way to do business to send the order without cash, but I was not sure that you could furnish her, or I would gladly have sent the money at first. I am glad you have not lost faith in poor humanity, after being abused so much by some of its members. Please remember me among so many "rain-drops." Many thanks for your kindness.

L. E. HARRIS.

Franklin Depot, Del. Co., N. Y., June 9, 1880.

LOUISIANA, AND A TALK FROM ONE OF HER BEE MEN.

MR. A. I. ROOT:—Bee-keepers are once more happy here, as 1880 gives every prospect of a "boss" yield of honey. We begin extracting June 1st, and continue, if the season is favorable, until August 15th.

WHERE DOES THE HONEY COME FROM?

With the commencement of the honey season, I have asked myself, and neighbors too, where does our honey come from? Some say they don't know; they are satisfied with getting it. Others look wise, and say it comes from the woods. Still others suggest corn as the source. Among the latter number is your humble servant, and I think the facts sustain that opinion pretty well.

HONEY FROM CORN.

We begin extracting as soon as corn begins blooming. Walk into the corn fields and you will find two or three bees on every blossom. True, each one has a load of pollen, but, watch it, and you see it busily probing each little flower with its proboscis; and, smash it, and you will find it has a nice load of honey. The honey season continues just so long as corn continues to bloom, which is until about the middle of August.

HONEY FROM COTTON.

Some one might suggest cotton as the source of our honey. Prof. Cook says we reap a rich harvest from it. I live in a cotton district, with thousands of acres of it all around me, and, although I have walked in the fields many a time to see if the bees did visit the cotton flowers, I have never had the pleasure of seeing the bees on one. If it does contain honey, and I suppose it does since Prof. Cook says so, the bees prefer the honey from whatever else it is that they do get honey from. I would like to hear from some one in the West, where corn is plenty, as to how it does as a honey plant there, and, by all means, friend Novice, let me hear your opinion.

A BARREL OF HONEY FROM A COLONY OF BEES IN ONE SEASON.

It is no very uncommon thing here for one colony to make one barrel of honey, or 480 lbs. Of the spring honey plants, of which we have a goodly number, the honey is all used up in brood rearing. Among them is the willow, which blooms from Feb. 10th until Apr. 20th; then we have fruit trees, Chinaball trees, and two kinds of locust. Basswood does not grow here, and clover is pretty much used up in brood rearing. Besides those mentioned, there is very little forage here. I have just killed a very fine Italian queen for laying only drone eggs. I had kept her more than a month, thinking she would "get over it." This queen was one of a "batch" of 17, and began laying as soon as the others,—in 21 or 22 days after the cells were started. Have you ever heard of such a thing before?

I have used 15 lbs. of comb foundation this season, and found that the bees in some hives did not like it much. After it was built out, it would remain a couple of weeks before it would be used. I think, however, that the foundation was not good. I have used it when the bees just rushed for it. I tried wiring the frames and then pressing the foundation into it, but gave it up as a bad job, since it is such an awful trouble to put the wire into my frames, the top and bottom bars of which are an inch square. If the foundation does not have honey put into it,

until it has been strengthened by brood rearing, it won't sag.

THE COUNTER STORE.

I am a subscriber to GLEANINGS, and consider it worth much more than its cost, in advertising so many cheap articles; for instance, I bought a pair of five cent scissors for clipping queens' wings that are just splendid. If I had not taken GLEANINGS, I would have paid at least 50c for a pair. My brother paid \$1.25 for a pair that, for clipping queens' wings are no better than mine, and, as he lost them the same evening that he got them, it did not pay at all.

LOUISIANA.

Lakeland, La., May 30, 1880.

We are sorry you did not sign your name, friend —, but, after all, I do not know but that your ideas are just as good as if you had. I think you need a little more charity; cotton may not yield any honey with you, but may yield a great deal in other localities, or at other times. I presume many will laugh at your idea of honey coming from corn, but I know pretty well that some corn, or corn at some seasons, does yield honey. The matter of having a corn that will yield honey every season is one that sadly needs working up. I am experimenting on it a little. Please have charity, and be slow to censure, my friends. One of you wrote that the sunflower is a great honey plant, but some one who planted largely of it talked hard, because the bees never went near the blossoms when they had planted a half acre.—Is not your statement about a barrel of honey from one colony a pretty large estimate?—Is it not that the honey was coming at one time, and not coming at another time, which made the difference in the way the bees took to the fdn., friend —, there, I don't know your name, after all. If I were you, I would take those great sticks out of your combs, and "reconstruct."—I am very glad to know that the five cent scissors are good to clip queens' wings. I had never tried them, but I hardly dared recommend for the purpose anything that cost so little. Thanks for your kind words. Your remark to the effect that expensive tools are as easily lost as cheap ones is a good point. You can buy ten pairs of cheap scissors, for less than you can buy one pair of high priced ones, and then, if one is broken or lost, you can take a new pair without waste of time.

THE THISTLE "BUSINESS," ETC.

ALSO SOMETHING ABOUT WEEDS.

WITH your indulgence, I hope to make myself understood this time. I did not intend to say that blue thistle was like Canada thistle. I referred to the bad qualities of Canada thistle in order to put the public upon their guard against trifling with a thistle which may prove equally injurious to the farming community, although quite unlike Canada thistle in its habits.

That "it dies root and branch after the second year" is, to my mind, no argument that it is a harmless weed. Ragweed, wild oats, yellow mustard, and many other troublesome weeds die root and branch the first year. Pigeon-weed, or red root, as well as some other bad weeds, die after the second year,

and yet these are very serious drawbacks to the farmer in many sections of country. I believe the greater part of noxious weeds propagate themselves by seed instead of by root; the parent dying as soon as the seeds are matured. Being hard to transplant does not prove them easily subdued.

The potatoe bug is an easy fellow to catch, and if you crush him or drop him in boiling water, he is dead; and yet the combined efforts of an offended and injured nation appear to have but little effect upon his numbers. The difficulty consists in his great power of reproduction. So with most noxious weeds; their power of producing an immense quantity of seeds is what makes the difficulty. Thistle seeds are to be feared in particular, for they take wing and fly—who knows where? Blue thistle and Canada thistle, being unlike in habits, may require different treatment which would aggravate the difficulty. Please give this an insertion in GLEANINGS and oblige—

S. T. PETTIT.

Belmont, Ont., Can., June 10, 1880.

P. S.—Since writing the above, I have received, from Ill., a letter containing one dollar with the request to send the writer a half dozen Canada thistle plants. This proves what I said in a former communication, that some will cultivate thistles regardless of the consequences. No sir; I will not send them. Money is no inducement to inflict such a calamity upon any community.

S. T. P.

Many thanks, my good friend P. I have never had a doubt but that all you have said was said in the kindest and most friendly spirit, but, for all that, I think you carry your point almost too far. You know there are extremes in almost every thing. I once heard of an old lady who refused to ride on the cars, on account of the accidents that happen. Some of my friends censured me most severely because I would fuss and experiment with grape sugar, when they knew I would certainly ruin the honey business if I did not stop. The honey business is not ruined, and grape sugar has proved a great boon, as you will see by the reports, especially the one from friend Hutchinson in this number. As you state it, even buckwheat is a bad weed, and perhaps it is the worst one on our honey farm; but, instead of letting it grow where it wants to, we only let it grow where we want it. Rag weed was in great plenty on our land at first, but I do not believe visitors find any of it now. I do not wish to send out the seed of rag weeds, and I have therefore bought an expensive fanning mill just to fan the seeds out; but, at the same time, I think it is a disgrace to any farmer to have it on his land, or even on his road sides. Keep it off as you would keep the moth out of your hives. Have all of the space occupied with something useful. We had a dozen blue thistle plants in our garden, but they all died in spite of all we could do. Mr. Faris said blue thistle was plenty in his neighborhood, but that it never grew only where the land was neglected, and that he never heard of its being considered a troublesome weed. I think I would ask my friend what he wanted with Canada thistles before positively refusing to send them to him. Canada thistle was growing in small patches in some parts of Medina Co., more than 30 years ago,

but it has been kept in check, so there is now no more than there was then, if as much. Some farmers will have weedy farms anyway, and seem to take great comfort in laying the blame all on the enterprising weeds that can not be killed out, while others will not have weedy farms, no matter if Canada thistles are on every side of them.

OUR OWN APIARY, HONEY FARM, AND FACTORY.

EARLY AND LATE SIMPSON HONEY PLANTS.

STILL the Simpson plants are growing, and to-day, June 6th, they are nearly as high as my head. Under the influence of the cultivator run both ways through them, they are making an astonishing mass of luxuriant foliage. The great, broad, green leaves have that bright, fresh, green tint that indicates a strong growth, and makes one almost involuntarily ask what will be the result of these, when in bloom, compared to what a few feeble plants did last year. I am looking at, and thinking of, them so much, I am almost afraid some great wind or something else will destroy them all. You may remember that friend Irish has spoken of an early variety. I had somehow got an idea that it was the same plant that had accidentally bloomed a little earlier; behold, to-day I found one among the lot he sent me that had suddenly shot forth a flower stalk, and was ready to blossom, though scarcely a foot high, while ours showed no signs of buds.

8th.—The small Simpson plant is in bloom, and, sure enough, the tiny pitcher-shaped ball is full of nectar, as they were last year. The flowers seem to be full as large, and in every way like, those of the large plant. No bees are seen near them now, for the white clover takes all of them.

BEES BY THE POUND.

The demand for bees by the pound, with queens, has been so great that our apiary is depopulated just about as fast as we can replenish it by buying bees from neighbor Rice. Neighbor H. says it don't pay to sell young Italians for \$1.25 per lb., for it spoils his whole apiary for queens, honey, or anything else. I tell him that if the apiary is spoiled, the money for it is in his pocket, and that it is about as good a way to convert bees into cash as I know of; I bought one new swarm last July, that weighed 7 lbs.

I did not know you were going to want so many pounds and half pounds of bees with your queens, or I should have been better prepared for the seige. However, I believe we have filled all orders for bees and queens, pretty promptly. Queens now come in by every mail and express, often in lots of a dozen or two at a time; but the mails each day take nearly every one, as fast as we get them. The bottle cage described last month is working beautifully now. There is something exhilarating in seeing so much business moving forward simply at one's command, but I tell you the weight of care is fearful, when things get tangled as they once in a while do. There are about a hundred now in my employ, besides a good

many more, who are working for me indirectly.

12th.—We have to-day received, from Italy, 25 queens and *every one alive*. They were from Bianconcini, who advertises with us, and has for some time past. Friend B. is a bright, wide-awake bee-keeper, and, as he writes our language, we feel more acquainted with him than with those who do not. His boxes were no larger than those used by other Italian breeders, but they were very neat and clean. Two little combs were used for each box, and the honey was nice and clean. He had evidently let the bees clean off all drip, so there was no daubing. If our friend Charley can do as well as this every time, he will have a great business growing up on his hands. I am somewhat anxious to have the sugar and water tried for ocean voyages, either in connection with honey or without it. With honey, bees so often come through with their bodies distended as if with dysentery, and the cages smelling badly; but, with pure sugar and pure water, this is seldom or never the case. Here is a card from friend Doolittle on this subject:

Although I have received many queens from various breeders, yet I never received, by mail or otherwise, from any person before, a queen which came in such perfect order as the red-clover queen just received. Not a bee was dead, and their bodies were not distended in the least. They would have stood a journey of two weeks with ease.

Borodino, N. Y., June 12, '80. G. M. DOOLITTLE.

Our boys complain that it is a great deal of work to put up a pound of bees with a queen, in the cage I have figured in the price list, and so I told them to make such a package as suited them. They now use a rough nucleus hive large enough to hold one frame. To get the bees in, this hive is set on the scales, and bees shaken from frames right into the hive or box, until the pointer on the scales shows a pound. Now, after we have got thus far, the very handiest and easiest way of giving them food is to give them a frame of comb containing honey. Well, once or twice, the bees have starved because a pound of bees consume honey so much faster than one would suppose. As a queen is almost always ordered with the bees, she will lay on the way, if a comb be furnished, and the young brood take still more honey; but the purchaser has besides his bees and queen, a frame of brood as well, or at least a frame with some brood in it. A pound of bees may consume nearly a pound of honey in a week, and, of course, we wish to make provision for such delays and contingences as are always likely to occur; therefore, after one or two lots had been reported starved, I gave orders that they should have a great deal more honey than they could possibly consume, and yesterday neighbor H. told me they had been giving every pound of bees, on an average, 4 lb. of honey. I thought this was away to the opposite extreme, but they said they had only obeyed orders. Come to think of it, I see no objection to this only that the expense of a good wired comb, and 4 lb. of honey is a little more than I can afford, and sell the bees at

\$1.00 per lb., the price advertised in the table for July. Perhaps 4 lb. of honey is used now, when the combs are all so full, but very likely not more than half as much will be used ordinarily. Even in that case, the comb and honey are worth at least 50c., which is more than half the price we get for the bees. Mr. Gray says we cannot well make even rough nucleus hives, for much less than 15c., including the wire cloth, etc.

In view of the above mentioned difficulties in sending bees by the pound, I shall, for the present, be obliged to raise the price to \$1.50, instead of \$1.00, for a pound of young Italians. This will make $\frac{3}{4}$ of a lb. an equivalent of a \$1.00 queen. I hope some one of you will be enterprising enough to run opposition, and sell them at the old price. Both Will and neighbor H. say, if I will give them the pound of young bees I have been selling for a dollar, they will raise a queen with them every 15 days, while the season lasts. Will tried it, just to prove to me that the price was too low.

16th.—We have had beautiful rains lately, and white clover is at its height. Our bees can not well store honey, because the colonies have been divided so much, queens taken out, and above all those pounds of bees removed from every one that had a whole pound. The combs are being bulged, and their tops show that snowy whiteness that is so cheering to the apiarist. I know by the looks of things, and by the hum of the bees, that we are having an abundant flow of honey; also from the letters that come in. What do you think of the following?—

June 9th, the hive on scales gained 1 lb.; 10th, 5½ lb.; 11th, 13 lb.; 12 th, 10 lb.; and 13th, 1½ lb.

Norwalk, O., June 16, '80.

S. F. NEWMAN.

Just think of it, you excitable A B C children, and some of you that are older, who have got the bee fever. *Thirteen pounds of beautiful clover honey*, from a single colony, in *just one day!* and about as much the next day, and so on. Why, a gold mine wouldn't be a "circumstance" to so much of nature's nectar; all gathered from the little flowers by our winged pets too. Who wouldn't be a bee-keeper—and have a colony hung on spring scales to tell you how much honey they were getting per hour?

17th.—The Alfalfa is now in full bloom, but no bees are seen on it. This is not strange, as the white and red clovers are now in their prime. For all this, bees are humming very thickly over the motherwort, which is now in full bloom. The melilot clover is higher than my head, but it only just shows, now and then, tiny embryo buds. I look forward to its blooming with considerable anxiety. It had clean cultivation from the start, and now covers the ground with a mass of dark green foliage that is a beautiful sight to look at. Bees are now seen at all hours of the day hovering over the early Simpson plants, in spite of the counter attractions of clover. The old plants begin to look almost like trees, but yet they show no signs of budding to blossom. We have an acre or more of small Simpson plants, besides our patch of large ones, but we have not succeeded so well with the spider plant,

having only about one-fourth of an acre as yet.

RAPE.

22nd.—We have tried rape again this year, as we have most other years, but it was a failure again from the same black flea, except one corner of the patch, where I found the bees working so busily on it, about the 20th, that I decided a whole field of thrifty plants would be one of the best honey crops we can get. You see they had deserted the clover for it. To-day, they have deserted the rape.

TIME OF BASSWOOD BLOOMING.

I went up where the men were working in the apiary, and asked if they had smelled any basswood honey yet. They said they had not. One of them raised the cover to a hive that had been left over night without a mat. I saw some fins of comb on the cover. A little honey was in it, and it was basswood, pure and strong; so I knew basswood was out. Afterward, I went into the woods and saw the blossoms just unfolding. This is about a week earlier than it ordinarily blossoms.

23d.—At 5 o'clock this morning, the bees were roaring out and in their hives; this indicates basswood, for they seldom commence work on clover before the sun is well up. What an exhilarating scene it is to see such bustle, rush, and activity! Bees are dropping in front of the hives on every side, exhausted with the heavy loads they carry. I have not seen the basswood orchard for over a month; in fact, I dare not take the time to go to it. If one of you should find me elsewhere than at my post filling your orders, I should feel guilty, almost, of a crime; and God sees even if you do not. Motherwort is full of bees, in spite of the basswood; and I tell you a plat of cultivated motherwort plants is a pretty sight to see. The catnip plat adjoining is so tall and so full of buds, you would hardly recognize it as catnip. Melilot, too, is full of buds, and now and then a flower is out. The late Simpsons, some of them, now show buds. All these will be out just about the time when the basswood closes. Amid all the cares and din of business, the thought and sight of these honey plants, so fresh and green and thrifty, is more of a comfort and joy to me than I can well tell.

24th.—"HOITY-TOITY!" Basswood honey is coming, in a perfect flood. Although the boys declared every hive was given plenty of room only day before yesterday, I thought I would take a look myself, and the first hive I found was crammed full. Next I looked at the red-clover queen's hive, and although they said she had 3 empty combs just given her, I found every cell full and the cells lengthened out to their utmost. We have been buying new swarms at 75c. per lb., and hiving them on wired frames of fdn., and it is just handsome I tell you. Beautiful, straight combs that can't break or sag are being made at the rate of hundreds a day. Is it possible that this is a reality, and not some fairy tale? Little did I think, when I fussed and sweated and almost cried over my experiments a few years ago, that such beautiful creations were eventually to be the result of it all.

Humbugs & Swindles,

Pertaining to Bee Culture.

MRS. COTTON.

IT seems that Mrs. C. does sometimes fill orders after all; here is a report in regard to the outfit:

We have one of Mrs. Cotton's victims here in our place. A widow lady and her daughter saw her circular which tells about making \$50.00 from one swarm in a season. They sent her \$20.00 for a swarm of pure Italians, and hive complete, and feeder. They got the bees last Friday. The next morning they sent for me to let them out. I went, and found a hive without cover, boxes, or feeder, with five frames having brood scattered around in three of them, and one frame only half full of comb. I looked the combs over carefully, and so did Mr. Chapman, who was with me; we found three or four queen cells started but no queen. There was about half a cupful of dead bees. Mrs. Cotton says in the place of the boxes, feeder, and top of hive, she sent diagram of her hive, which I would not give one cent for, she asked 4 or 5 dollars for it. I don't know what she will put in place of the queen. If there is any way to stop Mrs. Cotton from swindling, I think it is time to do it. E. A. ROBINSON.

Exeter, Me., May 24, 1880.

The fact that she does occasionally send something, friend R., will do much toward preventing her being classed with those to whom the department refuse to deliver mails.

MITCHELL.

Last week we had an "angelic" visit to our town by one of N. C. Mitchell's agents selling his patent bee hives, etc. He claimed that the patent was upon the division board; and, upon learning that I was using the division board in my hives, he asked what authority I had for using it. I told him it was upon the authority of A. I. Root's publications. He told me I would be attended to, upon which he took my name and address, giving me the enclosed notice, and saying he would turn over my case to N. C. Mitchell. DR. H. J. PETERS.

Rogersville, Ohio, June 7, 1880.

Thanks. The paper you send is only another of Mitchell's schemes to scare those who are so thoughtless as to be intimidated by such foolish threats. The man who handed it to you can be arrested for an attempt to obtain money under false pretenses. The paper itself, which is in substance the same as the extracts I gave on p. 155, April No., has the stamp of an absurdity on its face. This paper, too, says that, granting it to be an old device, the patent laws are such that he can recover damages all the same. What a beautiful system of equity such an arrangement would be for a free country.

I saw some of Mrs. Cotton's advertisements in the *Youth's Companion* of Boston, published by Perry, Mason, & Co., and so I just clipped some extracts from *Humbugs and Swindles*, concerning her, and sent them to Perry, Mason, & Co. They thanked me for it, and stopped her advertisement. She has not sued me for slander, and I guess she won't.

ANDREW SMILEY.

Housers Mills, Monroe Co., Pa., June 17, 1880.

Right, friend S.; you did your fellow men and your nation a service, by trying to repress fraud, and to protect our people from disappointment and losses. Never fear the threats of evil doers, when you know you are right.

THE FINEST SWARM OF BEES IN TEXAS.

AND WHAT BECAME OF IT.

ON the 10th of May, I had 2 large swarms of Italian bees which came out at the same time, and all settled together, so I did not know what else to do but to let them all go together. I got my table and placed it under the tree on which they had settled, which was a small peach tree. In order that I might save one of the queens, I got a sheet and spread it on the table, so I might be better able to see the queens. I placed the hive on the table with the frames all in order, and the quilts on, so I could force them in at the entrance. I then shook them down on the table and watched for the queens. I caught one and caged her. Then, after taking her away I drove all the bees all in together. I think there must have been $\frac{1}{2}$ bushel of bees. I felt sure that I had the finest colony of bees in Texas, and had taken particular pains to get them to stay. I gave them two cards of brood in all stages, with plenty of honey, and thought they would do big things, as there was plenty of honey coming in. As I thought they would perhaps not have room, I opened up the upper story, so as to give them fair play, and placed them on their stand, and to my surprise, in about 2 hours, they came out and started for the timber, which was not very far off. I followed them, throwing clods of dirt at them, but they were determined to go. I followed them about $\frac{3}{4}$ of a mile, until they got above the timber, and were going so fast I could not keep up; so I bid them farewell, or at least they bid me good morning, as they thought they might go farther and fare better. So I changed my course for home very much worried, and a little "down in the mouth," but not in Blasted Hopes, "by a long shot." When I reached home, I opened the hive and found a few young bees crawling about, that had hatched out of the brood I gave them.

Now, Mr. Root, you don't know how bad I felt for those fatherless and motherless bees, and, behold! the worst of all was, they had uncapped the last cell of honey, and cleaned it up, robbed their own brood, and left them to starve. I just thought, if I had hold of the old lady that led them off, I would crop her wings well. I then made an artificial swarm, and turned the queen that I had captured loose, and now I have a fine colony after all. What made them leave? H. D. HEATH.

Sherman, Tex., June 2, 1880.

I think I should have divided so large a swarm, friend H., but, with the two frames of brood you gave them, I should hardly have supposed they would decamp. Did you move them far enough from the place where they clustered? See friend Peter's remarks in regard to losing swarms, at the conclusion of the subject of swarming in the A B C. Very large swarms are always liable to swarm out at almost any time.

ARE BEES ABLE TO "STRAIN" THE WATER FROM NEW HONEY?

IN reply to Mr. Thomson's strictures in June No., p. 270, I have to say that I expressed my views in the April No., and he has expressed his in the June No. We find no fault with him, and I trust he reciprocates. We have observed all the phenomena to which he alludes in the latter part of

his article, and admit the falling of the spray. Perhaps it is nearly pure water; as pure as ordinary river water. We admit that it comes from the bees while passing over. Thus far we think alike; but our conclusions differ. The premises are the same in both cases, and we both "reason from what we know," and then diverge. Mr. Thomson sees an undemonstrated filter through which the water he poured on his sugar was finding its way. Call it an excreting gland. Such glands do exist in our own bodies, and they may exist in the bee, and for the especial purpose under consideration. Mr. Root, please hunt them up after you are through your hurry. "Find out how the bees separate the water." He has reached his conclusion, now, Mr. Root, prove it for him. Now I don't propose to risk my "old hat" in this matter. I would accept the apples by way of compromise, when our friend feels that he has jumped at a conclusion without logical premises. We present our case this way: Bees eat, digest, and expel the excrementitious matter while on the wing. This is the healthy, natural way of purgation. After bees have been confined for four or five months to their hives, the excrement becomes thickened, and when they are removed to their summer stand, on a warm, sunny day, the condensed, colored spray comes fast and thick, until it may be caught upon a white sheet or dry board.

Now the more muscular exertion an animal makes, the more solid matter it must absorb to keep in repair the muscular fiber consumed in the exertion. When an animal is fed an excess of water with its food, that water is "filtered" through kidneys and skin. Some animals have no kidneys, and, in such cases, other organs are employed in expelling the water through the alimentary canal. Such animals have watery stools when in a normal state. Now when bees at hard labor must drink a quart of water for the sake of "two table-spoonfuls of sugar," we feel warranted in expecting "plenty of spray falling." JESSE OREN.

La Porte City, Iowa, June, 1880.

I also, like friend Thompson, have noticed that bees expel water when working on thin syrup, but am unable to say whether or not they do really condense the syrup, or separate the water, from it. I have noticed that they do the same thing when working on pure water. I have a large tub for watering my bees, with a piece of rag carpet thrown over it. The bees alight on the wet carpet, and are in no danger of being drowned. During dry spells, they will literally cover the tub, and I have often been asked, "What are you feeding your bees?" When told, "Water," they look surprised, and say they did not know bees used so much water.

Now, if any of your readers are watering their bees, and would like to see them expel water, let them seat themselves some *evening* before sundown, so as to have the bees fly between them and the sun, and, if they have been enough carrying water, they will see a continual shower of water dropping from them. The question now comes, "what are they doing?" or is it only that they have too large a load, and discharge part of it? I think so.

Jos. M. Brooks.

Columbus, Ind., June 7, 1880.

I am inclined to think the bees can separate the water from the sugar, in the manner mentioned, but I can not "cipher out" why they should drink pure water only to expel it immediately. I too, have seen them do it.

PAINTING HIVES.

IN reply to Mr. Eoff, on p. 222 of GLEANINGS for May, you ask bee-keepers to give their experience with different kinds of paint. I have always had more or less trouble with the peeling off of paint from hives, after they had been painted a year or so, especially off the tops. About 2 years ago, I happened to be speaking of this fact to a practical painter, and his answer was substantially as follows: "There are two conditions which must be complied with to insure a good job of painting: 1st, to use nothing but the best material; viz., pure lead and oil; 2d, to apply it in a proper manner; especially to make the first coat a very thin one,—the less lead and the more oil the better. A large proportion of the oil in the first coat sinks into the wood, and unless a proper allowance is made for that fact, the lead will be left too thick and dry, and liable to peel or flake off."

Since that time I have followed the above advice, and am satisfied that it is correct. If you have any regular painter in your employ, you can easily learn from him how much truth there is in the above idea.

I have often thought that it would be of considerable importance to us bee-keepers, if a good substantial paint could be found, that is a better non-conductor of heat and cold than is our common paint. I understand that this quality is claimed for the asbestos paint, manufactured by the N. W. John's Manfg. Co., at 87 Maiden Lane, N. Y. Do you know whether this claim is correct or not? I should have tested the matter some time ago, if I could have obtained any of the paint.

O. O. POPPLETON, 91.

Williamstown, Iowa, May 12, 1880.

Since reading May No. of GLEANINGS, I feel as though I would like to put in my "say" a little. J. R. Eoff has trouble with his paint. I have hives in my apiary that have been in the storms and sun, winter and summer, five years that I know of, and they were old hives when we got them; the paint on them is good yet, and does not crumble at all. Use the very best lead and oil in the market. Cheap white lead is dear at any price. The first, or priming coat determines the durability of your work. That should be boiled oil and just enough white lead to color the wood a little. Let it get dry, and it will form a cement on the surface of the wood, so that when you put on the succeeding coats of paint, which should be of the usual thickness, the oil, with the lead, will form a hard coat on the surface. The oil will not be absorbed by the wood leaving the lead to crumble or chalk off in a short time.

CHAS. E. MURRAY.

Canon City, Colorado, May 10, 1880.

I see, in May GLEANINGS, that you recommend mixing paint with *boiled* linseed oil. I think if you once tried *raw*, or *unboiled*, linseed oil, you would use no other. It is much more durable, and has a more glossy surface. There is no trouble about its drying.

MRS. CHAS. FAVILLE.

South Wales, N. Y., May 5, 1880.

In your May No., you invite suggestions on painting hives. I agree fully with you that good white lead (such as Brooklyn or Cornell Lead, &c.) mixed with 1 part raw, and 1 part boiled linseed oil, if put on with a good paint brush (oval, I prefer), so as to brush it into the wood and not "float" it on the sur-

face, (2 coats), will last from 5 to 15 years, according to the kind of wood you use. Houses with good pine siding which we painted 15 years ago have, yet considerable "color" on.

B. BOTH.

Fort Alleghany, Pa., May, 1880.

Our painter says he fully approves of the above, and has nothing to add, unless it be that the wood should be perfectly dry when the paint is applied. The asbestos paint mentioned, in common with the great mass of ready mixed paints which are advertised, is much more expensive than the best lead and oil, as you will find by investigation; and, at the same time, nothing has ever been produced that would stand the test of years, as does the pure lead and oil.

THE "GOLDEN BEE-HIVE," ETC.

THE bee-fever is raging desperately here, and I fear will be the death of many a poor bee before a remedy will be found. Transferring, dividing, and trying to increase stocks and, at the same time, obtain large amounts of honey, is not often attended with very great success by the best of bee-keepers. The cause of the raging of the disease now is the advent, some few weeks ago, of agents for a patent hive, called the "Golden Bee-Hive." They have a two story, movable-frame, sliding-top, box hive, tin-can feeder, and movable division board, which they claim they have a patent on, and are doing a rousing business here, because they sell cheap(?),—\$10.00 for a hive and a farm right to use. They take well with those who do not know any better, never having taken and read any bee journal, or read any practical work on bee-keeping; but they do not "sell" many of the readers of bee journals. They think to annihilate the advocates of chaff hives and winter protection. We will wait until we pass through a long, cold winter, and then we will see which are gone,—the chaff hive advocates or the poor bees in the single-walled hives. Time and experience will tell, and I for one will wait a little longer, and see what school I am attending, and, in the interval, I will use the chaff hive, and try to assist nature to make my bees comfortable. I shall try to read all the bee journals and pick out the wheat from among the chaff, as gathered from the different fields, in preference to the claims of patent right venders of bee-fixtures. They seem to throw all their clubs at you, but I find that the best fruit grows on the trees most clubbed. Now, in conclusion, if you could obtain from the patent office a copy of the claims as set forth in the "Golden Bee-Hive Patents," and give the many readers of GLEANINGS, I think you would do many of them a favor.

Bees are doing finely. A great harvest of white clover is here now. All my working stands are storing box honey in sections. I hang my sections on each side of the brood, crowd the bees on 7 Langstroth frames, keep them from swarming by taking out frames of brood as they get crowded, and, when the sections are half full or more, I take them out and put them in the tray over the brood, and fill again with empty boxes. In this way, I keep all at work, and allow no idlers outside. I gather the idlers up and put them into queenless nuclei, with frames of brood, and set them to work.

Salem, Ind., May 29, 1880.

JOHN CRAYCROFT.

If you will give me the date of the patent, I can easily give you the claim, for I have a file of all the reports right in my office; but

I hardly think it worth the trouble. The purchasers are humbugged in buying a box hive whether it has a patent on it as claimed or not. I would endeavor to keep the people posted as much as possible, but I would avoid getting into controversy and argument; mildness and a gentle, quiet way of exposing and rebuking such frauds is, as a general thing, much more convincing than heated controversy and loud talk.

UTILITY OF EMPTY COMBS.

THINKING that not all perhaps who read the pages of GLEANINGS realize the real value of empty combs, I am led to give a few experiments with them, and a few suggestions which may be of benefit to some of the A B C class, if not to others. When we first began bee-keeping, we were short of combs; and, as our bees would persist in building more or less drone comb, we were often obliged to work swarms for box honey with as low as six Gallup frames in the hive. In fact, up to 1877, we did not average over 7 Gallup frames to the hive, so short were we of empty combs. As we wished to make the most of our bees, they were allowed to build comb in the brood apartment till the yield of honey came on plentifully, at which time the boxes were put on, after shutting them (by means of division boards) on to as many combs as they had completed up to that time. Thus, in 1874-5, we obtained an average of over 100 lbs. of box honey per stock, each year. Full frames of drone comb were taken away as fast as built, before any bees had matured in them; and, in this way we obtained our starters for boxes. To get rid of the drone comb, where frames were filled partly with drone and partly with worker comb, we bought up all the worker comb we could get, paying as high as 25c and 30c per lb. therefor, and, after cutting out the drone comb, we fitted worker in the place of it, thus preventing the bees from filling the same space again with drone. After this, if any we had bought was left, we fitted it in frames for use where most needed, often using pieces not over two inches square, soldering them in place by melted beeswax till the bees attached all together. Much loss is always sustained by letting our bees build comb in the brood apartment during the best flow of honey. Early in our commencement of bee culture we were obliged to do this, as we could not buy combs, or get our bees to build enough before the main honey harvest for them to rear brood in while at work in boxes; but later, in order to have no brood combs built, we gave our new swarms only five frames, and, as soon as these were filled with all worker comb, we spread them apart, putting in each alternate space an empty comb, thus completing a hive full of combs at the time of honey harvest. If the swarms were too large to work profitably building these few combs, boxes were placed around and over them so they could build comb in them, thus losing no time.

In these experiments, we found that we could get $\frac{1}{2}$ more honey from a swarm treated in this way than from one building the whole nine frames full; and, by filling the hive full at the time of hiving, we easily obtained double the amount. If these combs could be filled with honey when the swarms were hived on them, we were almost sure of three times the amount that we would get from a swarm in a hive containing no comb. If the swarm contained a

good, prolific queen, nearly all the honey there was in these combs would be in the boxes in two weeks, and the combs nicely filled with brood. There is nothing of more value in the apiary than good, all straight, worker combs, except good, prolific queens. Such combs should be looked after with care, when away from the bees, and the moth worms should not be allowed to eat them up.

Some have the idea that comb foundation is preferable to frames full of comb. This I think is a mistake, for the bees must consume some time in getting the foundation worked out to full combs, saying nothing of the expense of buying it. We were pained, not long ago, to see hundreds of moth eaten combs on the premises of a prominent bee-keeper who had, a year or two ago, bought a fdn. machine. These combs had been looked after with care in years gone by, and were built in the frames as straight and true as a board; and, to my mind, before the moths had damaged them, were worth double the same amount of fdn.

In bee-keeping, as well as in any other business, prosperity comes only by husbanding what you already have, and being careful of the outgoes. Therefore when you hear a person giving advice that the true way to make money from your bees is to buy and use fdn., as did a certain person in the *Bee-Keepers' Exchange*, who is considered authority by some, beware, and don't let your better judgment desert you. Foundation is good in its place, but the sheet anchor of bee-keeping is all straight worker comb, and if you have such use them in place of having bees build more, or of buying fdn.

Borodino, N. Y., June, 1880. G. M. DOOLITTLE.

I would most heartily endorse every word of the above, friend D. Let nothing go to waste; stop all possible outgoes; give each new swarm a hive full of empty combs so long as you have them, and by no means let combs of any kind be left scattered about to become a prey to the moth. Moths should never find a scrap of anything to live on, about a *well kept* apiary. If your combs are old and heavy, or contain too much drone comb, melt them up, but never let the moths get into them.

FROM FRIENDS JONES AND BENTON, IN THE ISLAND OF CYPRUS AND THE HOLY LAND.

FRRIEND Geo. Douglas, of Listowel, Ont., Canada, sends us the following clipping from a newspaper:

(TO THE EDITOR OF THE WITNESS.)

SIR,—As several of your readers have requested me to report through the WITNESS from time to time the progress I am making in connection with the importation of the great Cyprian bees from the Island of Cyprus, I beg to say that I have delayed writing until I could say something from personal observation, and also report something definite as to the prospect of getting the bees from there to Canada. I may say I left Canada the beginning of winter, and after visiting principal bee-keepers and apiaries of Europe as well as the editors of the various bee journals, I landed in Africa an examined the Egyptian bee. I next sailed to the Island of Cyprus, and, after procuring guides, mules, muleteers and interpreters, made a journey through the Island, procured all the hives I could, and started a

bee farm at Larnica, the principal port on the Island. By the way, I might here mention that I took a Mr. Frank Benton, a first class queen raiser and bee-keeper, from the Agricultural College, Michigan, to take charge of the apiary there, and raise and ship queens to me in Canada after I return home. I found great difficulty in procuring the bees, as

THE IGNORANCE AND SUPERSTITION

of the natives is so great, that, in many instances, both money and words failed to convince them that their future welfare did not depend on their refusing to sell their hives, and after leaving them they sometimes fumigated their bees and bee yard with the smoke of some sacred bones to drive away the evil and witchcraft that I had been practicing on them. I found some parties destitute of food, and on one occasion I bought fifty colonies where the parties had been living on herbs of various kinds for weeks, and as I advanced them a sovereign it was immediately dispatched for food, and the mother remarked that God had sent me there to relieve their sufferings, and she hoped the good God would watch after me. I will have from two to three hundred colonies there at Larnica in a short time, but I find it very expensive carrying colonies of bees thirty, forty, and sometimes sixty miles over the mountains on mule and camel backs, as the roads there can only be traveled in that way, except the one the English Government made to Nicosia.

THE CYPRIAN BEES

have proved themselves to be far superior to our bees of America, and I have already received a large number of orders from some of the best bee-keepers of Europe. Even the Italians of Italy are getting them to improve the Italian bees of their country. The Cyprian bees are a pure and distinct race, having been confined to the Island for perhaps thousands of years, and isolated from all other races. They breed much earlier in spring and later in the fall and winter, far better than any European bee or our American and Canadian varieties. They fly much farther to gather honey and fly swifter than our bees, and protect their stores with such determination that moths and other enemies of the bees cannot injure them. They build more worker comb and less drone comb than our bees, and are less inclined to raise drones. They are more judicious about flying out in spring in bad weather and seem to give more attention to early breeding. They have a reddish golden shield running across the back between the wings, which is partially covered by the long hair around it, and the underside of the abdomen is a very light golden color, almost to the tip, which is darker. I have no time to give you further description of them now, as I wish to say a little about

THE BEES OF THE HOLY LAND,

and our animals are about ready to start. I left Mr. Benton to see after my Cyprus apiary and complete my arrangements for starting back to America with a large number of bees, and I am making a flying trip through Palestine and Syria to examine the bees of this country. I have not had experience enough with them to give an opinion, but I have been so favorably impressed with them that I have decided to import a large number of the bees, which are called here by the natives holy bees. That they are a pure variety there is no question in my mind. I believe they have been here from the foundation of the world, in all probability without being mixed

with any other race. They are similar in some respects to the Cyprian bees, especially in being able to fly a long distance from their hives. I found them in some sections where the pasture was poor near their homes and good far away, gathering honey an incredible distance from their hives, in one instance more than double the distance our bees fly. I have secured a number from different localities and intend to secure some from all the different points where I am favorably impressed with them, or rather from points varying from fifty to one hundred miles apart, so if there is any difference I can have the best. I secured some at Jerusalem and other places in Judea, some from Mount Lebanon, some from Damascus, some west of the Jordan and Dead Sea and other places. I send them all across the country on mules and camels to the Mediterranean, and by steamer to Cyprus, where they are prepared for their long journey to Canada. I find great difficulty in getting them safely to the sea, as the distance is so great and the earthen pots or tubes and clay cylinders are so easily broken, and the natives so unreliable, and mules so unsteady. One mule with bees walked too close to a rock at the side of the trail and struck the hive against it so hard it smashed, and the bees began to swarm around the mule, and he

MADE A BEE LINE FOR THE JORDAN

and Dead Sea, and the only thing I know yet is that he was going when last heard from, but minus his load. So I entrusted three more to another party and hope they will go safely. But the expense of getting them from such long distances from sea or railways or even wagon roads is so great, and so far exceeded my expectations that I was forced to send a cable message home from Jerusalem for a large sum of money to enable me to carry out the project. As the animals are now waiting I must start, so I close by saying I will report progress in future. I send this by a muleteer to be posted in Jerusalem, or to be forwarded on to Jaffa if he finds a trustworthy party.

D. A. JONES.

WE clip the following from the *Indiana Farmer*:

Supply the vowels in the following sentence, and heed the advice it contains: Kpyrteksstngfywshscednbcitr.

We can endorse the advice.

We have received of G. W. Cole, Canton, Fulton Co., Ill., a garden plow, to be worked by hand, which pleases us very much for working among many kinds of plants on the honey farm.

UNFERTILE QUEENS NOT A MARKETABLE COMMODITY.

EVERY summer a great many of the new scholars ask if dollar queens are fertilized; others, after having purchased a queen, if she is not quite as large as they expect, or if she does not lay immediately, write back charging me with selling unfertile queens; others ask what I will pay for unfertile queens. I wonder if a little mild scolding will be amiss. Now, once for all, please bear in mind that an unfertile queen is of no sort of use to anybody, as a thing to buy or sell, and one who does sell them might just as well sell counterfeit money. I never, in my life, knowingly sold one before she had commenced to lay, and never expect to. It is true, you might take them out of the lamp nursery, and sell them to some one who could introduce them within an hour, but, if even one day old before being introduced, it will be next to an impossibility.

HOW THEY EXTERMINATE FOUL BROOD IN UTAH.

HAVING been appointed bee inspector for Salt Lake County, by the county court, in pursuance to an act passed by our Territorial Legislature, during its last session, 1880, for the protection of bee culture, I forward it to you for publication.

The disease among bees known as foul brood has destroyed many hundred colonies of bees, thus depriving our young and flourishing Territory of a large income from the industry of bee culture. As the name of our future state (Deseret) means the honey bee, we wish to cultivate that little "busy bee;" hence the law was made to protect those who wish to engage in apiculture. Any good advice that we may get by correspondence, from any source, will be received and acted upon as seems to us best.

My home apiary has perished this winter,—over one hundred hives within the last three years; but my apiary about three miles toward the mountains, east of my home, has done tolerably well. I have about 60 healthy colonies there, which have not had any foul brood, and I do not want them to have any. Losing my home apiary almost discouraged me for work with them. There would be some bee-keepers near by, who would not try any thing with their diseased bees, and by that course my bees would keep the disease among them, so I gave them up to die, and die they did.

The following is the law as published:

AN ACT for the protection of Bee Culture.

Be it enacted by the Governor and Legislative Assembly of the Territory of Utah, That it shall be the duty of the county court of each county to appoint from among the bee-keepers of the county, one or more suitable persons as Inspectors of Bees.

Sec. 2. These inspectors shall be appointed biennially; viz., on the first Monday in March of each alternate year, or at the first regular sitting of the court thereafter, and shall perform the duties of bee inspectors for two years, and until their successors are appointed and qualified. Said inspectors shall qualify by taking and subscribing to an official oath, and giving bonds with sureties to be approved by their respective county courts, said bonds to be filed with the clerks of said courts.

Sec. 3. In determining the fitness of a person to fill the position of inspector, the court may be guided by the wishes of the majority of the bee-keepers owning or keeping bees in their respective counties, and it shall be deemed lawful for any inspector, if he so desires, to invite one or more persons to assist him in prosecuting his inspection, provided, that no charge is made for this voluntary service.

Sec. 4. On the complaint of any person to the effect that, in his opinion, the disease known as foul brood exists among the bees of any person or persons, whether owners or custodians, it shall be the duty of the inspector residing nearest to where the foul brood is suspected to exist, to immediately inspect the bees believed to be infected, and, if said inspector finds that foul brood does exist, he shall there and then instruct said bee-keeper wholly to destroy said bees and hives in which it is found, by immediately burning or burying them.

Sec. 5. If a bee-keeper by his own inspection or through any source other than through a duly appointed inspector, discovers foul brood in his apiary, it shall be his duty to wholly destroy the hives affected, as provided for in section four (4) of this act; failing to do which, he will be held liable to the penalties hereinafter imposed.

Sec. 6. If the bee-keeper in whose colony the foul brood is discovered either by himself or an inspector does not immediately wholly destroy said diseased bees and hives, in the manner above provided, on

the complaint of an inspector or other competent person before the nearest justice of the peace of the precinct in which said bee-keeper keeps his bees, and on sufficient and lawful proof, he shall be held liable to a fine not less than five dollars (\$5.), nor to exceed twenty-five dollars (\$25.), for the first offense, and for each additional offense he shall be liable to a fine not to exceed fifty dollars (\$50.).

Sec. 7. To provide for the prosecution of the duties of bee inspectors under this act, the county courts are hereby authorized to appropriate such sums as may be necessary for these purposes out of the revenues of the several counties.

So you see it is now law and in force, and I trust that it will prove beneficial, and for the welfare of apiculture in Utah, although it may be amended in several sections at the next meeting of our lawmakers. I shall do my duty as inspector of bees for Salt Lake county for the next two years, to the best of my ability.

GEO. B. BAILEY.

Mill Creek, Utah, April 23, 1880.

I am very glad, friend B., to see your young state so in earnest in the matter, and while reading over your laws, I could but wish that the same thoroughness might extend to every state in the Union. With such measures thoroughly carried out, foul brood would soon be unknown.

NOTES FROM THE NORTH SHADE APIARY.

No. 1.

HOW TO GET PLENTY OF CHOICE QUEEN CELLS.

A FEW days before you wish to start a colony at rearing cells, place a clean, white, worker comb between two combs of brood in the hive which contains the queen from which you wish to rear queens. For convenience, we will call this hive No. 1. Keep a good watch over this comb, and when eggs are found mark the date on the top bar of the comb, as, just three days later, these eggs will be hatching, and this is the time to remove them to a queenless hive (No. 2).

Now, in choosing a colony to build the cells, select a good, strong colony of pure Italians. Hunt up the queen in No. 2, and remove her, with two combs of brood and bees, into a new hive on a new stand, and build them up as suits you best.

Remove from No. 2 all the combs that contain brood, first shaking the bees from them; for I think it a mistake to use all old bees for queen rearing. Also we want them strong, to commence work on the queen cells at once.

Get empty combs enough, less one or two, to fill the space made by removing the brood. Now go to hive No. 1, and get the comb of hatching eggs, and cut strips from it about $\frac{1}{2}$ inch wide, and as long as convenient to handle. Take an empty comb, and place one of the strips upon it, near the top bar, and parallel with it, in such a way that the cells on one side of the strip will point down towards the bottom bar of the frame; gently press the strip against the comb, and stick one or two pins through it into the comb, to help hold it in place. Use only one strip, or row of strips, on each comb, and this on only one side of 4 or 5 combs. Now hang the combs in the hive, and push them together so as to hold the strips firmly in place until the bees fasten them, taking care not to crowd them too close, or they will be jammed and spoiled. Hang the combs so that all the strips will be on the side of the combs next to

you. Now close the hive, and give the bees a chance to fasten these strips, and to deposit food for the use of this young larvæ, which they will not be long in doing, having a plenty of bees for the work on the start.

Leave them to themselves just four days; do not wait until the 5th, or some of the cells may be sealed, and in that case the chance is not so good to make a good selection of the cells to leave. Now, open the hive, and loosen each strip from its comb with a sharp knife, being careful not to damage any of the cells on the strip, but cut a little into the main comb instead. If all the above directions have been closely followed, you will be surprised at the long rows of cells on these strips. Choose the best ones to leave, and "steal" out the larvæ from the other cells, leaving the food, which will soon be removed by the bees into the cells of your selection.

The queens will hatch from these cells about the 15th day from the time the strips were inserted. In this way I have never failed to get a good supply of well developed queen cells. To those who are not satisfied with their past success in queen rearing, I would say, try this plan, and you will be surprised at the number of choice cells a good colony will "put up."

I have had single colonies build 40 and 50 cells on these strips, but 20 is the most I ever left after the 4th day, and this was in a hive where the bees had started queen cells preparatory to swarming. This was my first batch of cells for the spring of 1879. A good, strong queen hatched from each of these 20 cells. I now have 18 of them in my yard, and a neighbor has the other two, and each is doing "its duty" in a strong colony of bees.

The above method may seem slow and tedious to some, before trial, but I do not find it so for me, after giving it a fair trial, and I am sure I am fully rewarded for all the trouble it causes by getting a superior quality of queens. Hereafter, I shall rear all my queens in this way, "dollar queens" and all; and when I find I can not afford such for a dollar, why, of course, I shall have to charge more.

O. H. TOWNSEND.

Hubbardston, Ionia Co., Mich., April 16, 1880.

Boys' Department.

MY little boy, 8 years old, is much interested in bees; he has a stock of his own, and reads GLEANINGS. He says he is going to write you, and tell you how he helps papa make frames and sections; but I'll tell you first that he nailed last season almost all my sections and frames for the use of 50 stocks, and did not stay from school one day to do it. His sister, 3 years older (we have only the two), put in most of the starters, and helped much in extracting. I make a bargain with them and pay them for their work. I think it better than to compel them to do it.

Mrs. Cotton has an advertisement in the *Youth's Companion*, enticing the innocent ones to write to her to be swindled. Let me suggest that you write to the editors of that paper, showing her up to them in her right light. Is it not your duty to do so?

FRANK M. CHAPMAN.

Morrison, Ill.

We have already notified the *Youth's Companion*, some time ago, in regard to Mrs.

Cotton, but it seems that they, like many other papers, are not only slow to be convinced, but, after they are convinced, prefer dropping the subject rather than giving their readers a word of warning. I am very glad indeed to learn that the children can help, and much admire the wisdom of your way of getting them to help, friend C. We, too, find employment in the honey season for quite a class of little ones, at the kind of work you mention.

Mr. Root:—I am only a boy of 11 years, and yet know quite a good deal about bees, but am constantly learning more. I have to make all the sections which father uses, which will this year amount to about 8,000 or more, besides helping in a great many other ways. Last summer father gave me a very nice swarm of bees. The colony from which they were raised had an imported mother. I enjoyed reading the boys' column very much.

We have over 200 swarms of bees, and it is quite a job to take care of them all. We are at present feeding ground feed, which they carry away quite fast, but I have seen a good many bringing in natural pollen.

CHARLIE C. MILLER.

Marengo, Ill., April, 1880.

Well done, Charlie. It seems you not only take a practical part in taking care of those 200 colonies of bees, but that you also read the journals. This is well; for we have men who read and don't practice, and others who practice and don't read. To accomplish the most, the two should go hand in hand, and you may tell your papa for me, that he should thank God for a 11-year old boy, who can do both already.

Mr. A. I. Root:—I am a boy of 15 summers. Last year I thought I would go into bee-keeping, and see if I could not get a little spending money by so doing. I purchased a hive of common black bees of one of my neighbors for \$3.75. I next sent out to Mr. Newman of Chicago for a movable frame hive, and then set to work to transfer my bees, which I did without being stung except once. I succeeded nicely in doing this. I increased to 4 hives, and got a little surplus honey but not very much. I have purchased a Barnes circular saw, and mean to have about 20 hives by next fall, if I can. I have induced 3 of my neighbors (one a lady) to keep bees, and they want me to furnish them with comb fdn., smokers, honey knives, etc. Inclosed find \$15.00, and if there is any left after filling the order, please notify me of it, and I will trade it out some other time. This \$15.00 is every cent I have. I am going to get a queen as soon as I can get money enough saved up. I don't know when that will be, as I have got to sell enough from this order to buy lumber for some hives. I go to school, so I do not have any chance to earn anything.

FRED L. MARKHAM.

Tyler City, Conn., Mar. 18, 1880.

Go on, my young friend, and may God bless your work; but do not let your bees draw your mind too much away from your school. If education is neglected when young, it is seldom that the loss is ever made up in after life. Do not get too many bees on your hands, until you get through with your education. Boys should be boys, and I know by experience that it is not well to be burdened with cares too heavily, at the

tender age of 15. You will not think this advice discouraging, will you, friend Fred? You see I do not wish you to get discouraged and get into Blasted Hopes, but I want to see you go along slowly and surely. I feel pretty sure you are a good boy at school, Fred, because of your beautiful handwriting, and almost faultless spelling.

BEES THAT ARE SMALL EATERS, ETC.

A NEW AND DESIRABLE TRAIT.

WHILE setting out my bees and looking them over the other day, my head was filled with a variety of ideas, and I thought at the time I would write them to "Bro. Root." By that endearing name I shall hail you, for since reading the Home Papers in the Jan. No., I have been convinced of my waywardness and have espoused the cause of Christ. May God bless you and your efforts in behalf of your fellow creatures in my earnest prayer.

I have wintered 100 per cent of my bees, and, what is better still, they are *strong*, most of them having from three to five combs with sealed brood. I have not lost a queen yet. My queens are all young with one exception, she being three years old this coming Aug., one that was reared from the stock of H. Alley. She is as vigorous to-day as when a month old, and she is at present the mother of a colony second to none in my yard. They are peaceable, but rather of a leather color, like their mother. This queen and her daughters have, I think, a very peculiar trait. I will mention it before I close.

You know friend Hasty is trying to breed up a strain that will "pump" the honey out of red clover whether or no; no, *he* is going to make the clover adapt itself to the bees; but it is you who have the red clover strain. Friend Alley has bred a strain for beauty, while Oatman and Dadant have the best of workers, and Burch comes in with his strain of '79, that is noted for hardihood and longevity. Now, before I name the coming strain of the *Gill persuasion*, I wish to sight you to an incentive by which I am induced to build up such a strain. A friend came along the other day, and, as we were speaking of friend Root's propensity for automatic machines, we imagined an *automatic concern* (your honey farm being all to spider plants) going around every morning, and with *that teaspoon*, dipping the raw nectar from the flowers and dumping it into sun evaporators. But while setting the bees out and looking them over, I found that the colonies of the above named queens had consumed but *very* little honey, while the others, that were equal last fall in stores and bees, had consumed nearly all they had; and, if there is any difference, the stocks in question are the best to-day. Well, after seeing all this, I was inspired with new courage and planned thus: I will develop these anti-gormandizers (with the aid of Prof. Hasbrouck's cracker barrel) until I get a strain that won't eat up any of their honey; then I will send to friend Hasty for some clover seed (for I am satisfied he will produce his development before I shall mine), and then contract to furnish Thurber and Perrine. But now, for a fact, is it not possible that families of bees, like some families of humans, can get along as well and even better at a great deal less expense—which eat to live, while others live to eat? At any rate, I have observed a great difference, but the cause of the difference I do not know.

Bees have generally wintered well in this section, although a great many have died from carelessness. The common alder (*Alnus serrulata*) is now ready for them, besides a few kinds of (*Salix*) willow. The soft maples along the river are also looking quite red at a distance. You do not know how *thankful* I feel at the condition of my bees this spring; they are just splendid. Just think; last winter I lost 75 per cent, and this winter I have wintered 100 per cent! I expect wife would advise you to put me in the Smiley about the bees, but perhaps not in every thing else. M. A. GILL.

Viola, Richland Co., Wis., May, 1880.

P. S.—Since the above was written, I had occasion to look over a swarm whose queen was reared from the above mentioned queen; they have been wintered in a cellar, and we agreed they had not consumed over 5 lbs. of honey, and perhaps not that, for they were light last fall. M. A. G.

I confess, friend G., that I hesitated somewhat about putting all your kind words into print, but the letter seems to follow along so connectedly, I trust our friends will all take it in the spirit it was intended. May the Lord keep you in the same path.—We have all noticed, and it has been often remarked, that some colonies winter on much less stores than others, but I believe we shall have to give you the credit of suggesting that this is a trait which may be encouraged and perpetuated. Where will the end be, if we keep on at this rate?

CALIFORNIA BEE-KEEPING.

No. 3.

ALFALEA IN CALIFORNIA.

AT last, summer has set in, in earnest, and the bees are busy on sections of foundation. The fields of alfalfa present a sea of purple flowers, which, I imagine, more than rivals your bee pasture, or linden grove either. It is gratifying to watch the little pets gathering the nectar from the flowers, which are so nicely scented that they are altogether pleasing.

LIPPIA NODIFLORA.

This plant has begun to bloom, and bears a strong resemblance to eastern white clover, as it covers the ground with white blossoms. It is a curious plant, growing just as well on land that has not been dampened for months, as it does in moist ground; and we also find it right in the water, sending its leaves and flowers up to the surface as the water lily does, and the bees work on it with great energy from morning till night. The snow on the Sierra Nevada mountains is melting fast, under the direct rays of this June sun, and sends its flood of pure water over the valley in every direction, so the land is covered with every conceivable sort of vegetation. The water in the river is more than level with the adjoining land, and has already broken the levee in one or two places.

I was sorry this morning to see the smashed cage in which Mr. Coon's queen had been shipped, for I was anxious to raise a lot of young queens from her at once, as I am almost disgusted with the curious black bees we have. I think you would better make a cage so strong that the P. O. officials can not smash it, even if they get on it with their feet, or we may lose the privilege we have of sending queens by mail. O. S. DAVIS.

Lemoore, Tulare Co., Cal., June 2, 1880.

BEE BOTANY AND ENTOMOLOGY.

RED BUD (*Cercis Canadensis*).

THE *Cercis Canadensis*, although unknown in this part of the state, grows wild in central and southern Ohio. (See catalogue of Ohio plants, in Ohio Agricultural Report for 1859.) J. H. Klippart mentions it, as growing in the Black Swamp. (See Geological Survey of Ohio; Report of progress for 1870, page 350.) N. H. Winchel names it among the forest trees which he observed in Delaware, Union, and Paulding Counties. (See in Geological Survey of Ohio, Vol. II., part 1st, the reports for the counties named above.) Wood (See "Botanist and Florist") locates *C. Canadensis* in Middle and Western states; Darlington (See "American Weeds and Useful Plants"), from Canada to Louisiana. When a boy, I used to see, on the hilly banks of streams, in Madison Co., O., what I suppose to have been the red-bud in bloom.

H. EVANS.

Le Roy, O.

Thanks, friend E. If this be the case, there is no reason why we should not have red bud on our honey farm. Who can furnish us some young trees? and what is the price? Our southern friends must not expect to monopolize the red bud trees any longer; that is, after ours get "growed big."

EDUCATING THE PEOPLE IN IMPROVED BEE CULTURE.

BEING at a bee-keepers' convention at Coshocton, a short time since, a new idea was presented to my mind, which shows that the bee-keepers almost universally have been very short sighted in writing all of their bee literature to the journals, and not any to their county papers. At the above mentioned convention, there was present an editor of a county paper, who said in the convention that for himself, and he thought such editors generally would agree with him, he was not only willing to give place in the columns of his paper to articles on bee culture, but he was anxious to have them; he really desired them.

There are a very large number of men whom we may properly call farmer bee-keepers, who have from one to a dozen stands of bees, of course in box hives, and who never take and perhaps never see a bee journal, and to go to one of them and persuade him to pay \$1.00 for one is just out of the question; so, of course, we cannot reach them through that medium. Then the only possible way is to teach them through their county newspapers, and you will find nearly every one takes one or more of them.

Hence it becomes self evident that those who wish to awaken a more extended interest in bee culture, must reach these men, and awaken their ideas, through the medium of their county newspapers.

I do not, by any means, intend by this that we shall neglect or forsake our regular bee journals. They must be kept up with a bountiful supply of wholesome matter; but, at the same time, should we not divide up a little, and enlighten our farmer bee-keepers on the subject? Then I think we will soon see a large increase in the subscription lists of our journals. Bee writers, wake up and try it.

A DAY AMONG FARMER BEE-KEEPERS.

One day last week, I took a horse and buggy and spent the day among farmer bee-keepers, and I must

say that if I did not teach them anything, I really learned something myself. Not one in a dozen took a bee journal. All had box hives. I found one who had had some bees transferred a year ago, but they had not done well, and had died. He showed me the hive they had been transferred into. It was out of one box-hive into another box-hive. How "high" is that? I found two who had quite a lot of box hives made a year ago. They began to see that the movable comb hive is better, but could not think of throwing their boxes away, and buying others. If they could sell these, they would be glad to get their bees into frame hives. They would take a bee journal by and by, but not quite yet. One or two wanted their bees Italianized, but wanted to keep them in their box-hives. One farmer, in particular, whom I have been urging for the last year to take a bee journal, has 12 stands of bees, but cannot afford a journal yet; he takes 2 or 3 farm and stock journals, and several papers for his family, and children in particular. He knows he would derive useful knowledge from a bee journal but can't afford it yet. *He will try and try*. When I asked him how his bees were doing, he really could not tell, for he had not looked at them this spring.

I finally arrived at the farm of a man, of whom I had often heard, as one who had made bees pay in box hives. I expected to find one who was fully set in all the old fogyisms, and who would admit of nothing as better than the box-hives and sulphur pit; but I found a very sociable and agreeable old gentleman of about 60 years. He had never read bee literature for an hour in his life, because he had never had it to read. He was willing and anxious to learn and improve in bee culture. I think he had never seen a movable frame hive until I showed him a sample. He used what is known as the Eddy hive. He asked me if the brood was all lost in transferring. Last fall, he had several stocks that were weak, and others that were light in stores. So he killed the bees in some, and then turned the hives up and let the others take the honey out. He did not know that two stocks could be united. He stated that he had one stock that produced an overabundance of drones last season, so he went every day to the hive and killed drones until tired, and kept count until he had killed over sixteen hundred, but could not miss any from the hive. When I told him I had just a few days before transferred a stock where I found a large sheet of drone comb right in the center of the hive where the most of the brood is raised, and that the number of drones can be controlled by cutting out drone comb, he began to think that it is never too late to learn. Well, I had a very pleasant chat with him, for two hours, and when I left his son rode with me a couple of miles, and he, as well as the old gentleman, said they had always had good success with their bees. The son said they had purchased all of their household supplies with honey and wax for the past five years. At one time he knew his mother to trade \$70.00 at once and pay for the whole with honey. He said they had a farm of 200 acres, and he knew they got more money for the amount of labor spent, from their bees, than from any other work on the farm.

But, before leaving him, I learned the real cause of their uniform success. The old gentleman always made it a point every day to open the door in the rear of each hive, and look in and see that every bug, worm, cobweb, spear of grass, or anything that

could in the least annoy or disturb the bees, was removed. In short, he took the best care of his pets that he knew how.

A. A. FRADENBURG.

Port Washington, O., May 17, 1880.

I warmly approve your idea, friend F., for I well know that the regular bee journals do not reach a great portion of the people. Neither is it possible for the bee journals to contain all that is to be said pro and con, in regard to our now rapidly developing and favorite industry. In regard to giving freely of all the information we possess, to those around us, I will quote from an old and trusty authority:

Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal it shall be measured to you again.—LUKE VI. 38.

WINTERING IN CELLARS.

In the Feb. No. of GLEANINGS, I am asked if I have kept my bees in the cellar all through the warm weather in January without trouble. I might answer "Yes," and stop at that; but, if you will allow me, I would like to have my say in full, having been 20 years learning something about cellar wintering. I think quite likely, for a large number of persons and places, chaff hives outdoors are best; and, if I were commencing *de novo*, I would certainly give them a thorough trial. But so long as the success of the past few winters attends me, I shall hardly change. When I had only a few hives, there seemed to be no trouble; but with increase of numbers the matter became more difficult, until, one winter, I lost 48 out of 50, largely due, however, to being put in the cellar in bad condition.

I then had a room in the cellar, made warm, with cement bottom, but it was not a great success. Adam Grimm showed me a cellar built purposely, with cement bottom, ventilated at each of the four corners, with which he was sanguine of success; but I afterward learned that it failed. I then occupied the room in the cellar that I have now used for several years. This room is 18½ by 17 feet, and 7 ft. 3 in. high, with lathed and plastered walls and ceiling and clay bottom, capable of holding more than 300 hives. Two chimneys run from the cellar bottom up through the house, making the entire height of the chimneys from the cellar bottom over 40 feet. Into one of these, a stovepipe was put for ventilation. In the winter of '76-7, a stove took its place in the cellar, and when very cold or damp, a slow fire was kindled, and close watch kept that the thermometer might stand as near 40° as possible. The 99 colonies put in came out in good condition, without the loss of a single colony, having been confined 145 days.

The next winter, 124 colonies were wintered with the same result. The next fall, Nov. 26, 1878, I put in 160 colonies, and lost 6 or nearly 4 per cent. The warm days in winter gave me some trouble, the bees getting quite uneasy. I opened, at night, the door and window, letting them remain so all night, thus thoroughly changing the air and lowering temperature. Upon opening up the cellar at night the bees would become very noisy, but by morning all would be quiet, even with the full blaze of the sun pouring into the window. The next fall, or last fall, my wife insisted that bees needed more ventilation; so I had a hole knocked in the other chimney, and put in a stovepipe running to within 8 inches of the cel-

lar bottom. The two chimneys seemed to give abundant ventilation, and partly because of sickness and partly because I wanted to see what they would do without attention, there was literally and positively nothing done for them to the 20th of March. If the house had been locked up and I had been in Europe, there would have been just as much done for them. So I think I may answer your question in Feb. GLEANINGS, by saying that I kept my bees in the cellar through the warm Jan. weather, without trouble.

March 20th, I opened the cellar at night, and Mar. 27th, I commenced taking out the bees, finding 9 colonies, or nearly 4 per cent, dead; and I am ashamed to say, some of those had starved to death.

Now I wish I could say just why I have succeeded so well as I have, but I will try, in a few words as possible, to say just what I am conscious of doing that may have a bearing on the subject. First of all, the cellar must be thoroughly ventilated. With this point gained, I am not so sure what the best temperature is. Last winter it kept from 40° to 50°, and seemed to be all right. The number obliges me to pile them up like so many bricks. Each pile is independent of every other pile, so that jarring a hive can only jar the other 4 or 5 hives in the same pile. At the bottom of the pile, I put a hive cover, raising it an inch from the ground by means of blocks under the corners. On this cover a hive is placed, the entrance being left open, and the quilt, if water tight, turned forward at the back end so as to leave an opening of about a quarter of an inch. On this hive I put two pieces of inch board about 18 inches long and 2 inches wide, for the next hive to rest on, and thus finish the pile, making it 4, 5, or 6 hives high. I try to get them into the cellar as early as they will allow, without boiling out of the hive. This is sometime in the month of Nov., never earlier than the 10th. I like to get the hives in perfectly dry, with no frost in them; and I handle them carefully so as not to disturb the bees. Then they are left without any winter flight until the soft maples are in bloom, and I like to see them at work on the maples or willows the day they are carried out.

WIRE SEPARATORS.

I am glad to see in May GLEANINGS, Prof. Turner's suggestions; but the bees (my bees, at least) will be sure to put propolis on the wire cloth. No matter how large the openings in the cloth, at least the angles will be glued. Now is there any necessity for wire running in two directions? I am going to try some made in this way: On the uprights of the wide frames, at the places where tin separators are usually nailed on, I will put a row of small wire nails, perhaps ¼ inch apart, driving them nearly in; then I will weave fine wire back and forth on these nails, driving the nails down tight afterward. Perhaps the wires will not keep sufficiently taut to work.

C. C. MILLER.

Marengo, Mc Henry Co., Ill., May 11, 1880.

The above seems to sum up pretty thoroughly the matter of cellar wintering. If ever in the future I find chaff hives unsatisfactory, I shall adopt just about the directions given above.—The single wires for separators, I fear, will be bent apart too easily; and, when they are to be taken from the hives, the propolis will stick them to the next frame, so they will be stretched and bent out of place.

Heads of Grain, From Different Fields.

GREAT NUMBER OF QUEENS FROM NATURAL SWARMING.

THE 26th of May, I had a large Italian swarm. I was very glad to see it come out, for the reason that I wanted cells, as I had had very indifferent luck rearing them, robbing being the rule. I am slow at finding queens, so I had moved a hive, and put an empty one in its place, in order to get a queenless colony, but robbers set in and demoralized them; many bees left the new hive, and I could not get them to build cells.

While pondering what to do, the Italian swarmed. Now I thought my opportunity had come, as I could get a fine lot of queen cells that would supply all I needed. According to A B C, no cells hatch until about the 10th day; so, one day, after the first swarm issued, I examined the old stock; to my great astonishment I found the cells all hatched (not torn down), and not a queen was to be seen in the hive; but I picked up 24 dead queens in front of the hive. Two days after, I found a live queen on a section which I took from the hive, and some more were picked up and lost, — 30 is about the number of dead queens. Can you account for this strange freak? I have examined A B C and everything at hand, swarming, artificial swarming, queen rearing, after swarming, &c., and find nothing that fits the case. Thirty queens lost! it is too bad just now.

The old swarm was a maiden swarm which came out the 10th of July, 1878, and filled up last year; I put on a second story and then a third, and made 125 lbs. honey. It did not swarm, though very prolific. I send you by mail a box containing 18 queens (some were lost), which will partly prove my statement. I did not consider them perfectly pure though others did.

N. A. PRUDDEN.

Ann Arbor, Mich., May 31, 1880.

Aside from the large number of queens, friend P., I do not see that your case is at all unusual. You mistake the statements in the A B C. If we deprive a colony of its queen, none can hatch, as a rule, in less than 10 days; but if the colony sends out a natural swarm, it generally has cells ready to hatch; and sometimes, when bad weather keeps the swarm from coming out, the young queens will hatch even before the swarm leaves. It is true that Italians often send out natural swarms without starting any queen cells at all; in which case, the young queen would hardly get out in less than the 10 days. The young queens you send are remarkable for their size and appearance of vigor; it is a great pity you did not open the hive and look for queen cells as soon as the swarm left. As high as 50 queen cells have been found at once in a single hive, but 30, large, fine queens is pretty good, friend P.

AN A B C SCHOLAR'S INTRODUCING.

The queens telegraphed for came to hand. One had 2 dead bees, the other none. They were 3 days on the way (over Sunday). One was given to a queenless hive which accepted her immediately. The other was given to a hive which I deprived of their queen. At first, they were disposed not to accept a

step-mother, and it required 36 hours time to convince them that *they must*. This was my first introducing, and I went according to the A B C, and all was well. I have transferred 3 hives.

H. B. THOMPSON.

Curwensville, Pa., May 31, 1880.

Pretty well done, friend T. You have got the idea exactly; teach your bees that they *must* do as you wish to have them. I do not mean you are to make any great demonstrations about it, but rather that you make up your mind what you want to do, and then set to work in a quiet, resolute way, and make yourself master not only of the bees but of yourself also.

PORCELAIN PLATES FOR FDN.

Two suggestions: For foundation, try pipe or porcelain clay, rolled between the cylinders of your mill, then flattened and baked *secundum artem*, a difficult matter for any but a pipe maker, then dip in wax and put in your hive.

ENLARGING THE RACE OF BEES BY CROSSING.

Get a humble bee fertilized by a drone in a tub with a window, as already found to answer; i. e. the tub; or a French hornet might do. These are worthy of an American bee-keeper's enterprise.

J. H. ELDRIDGE.

Earlham Road, Norwich, Eng., May 17, 1880.

Your first idea, friend E., it seems to me, promises much, and I hope some one who is near a porcelain factory will test the matter. If a porcelain can be made porous enough to hold water so as to prevent the fdn. from sticking, and yet be harder and more durable than the plaster casts generally used, it will doubtless solve the long sought problem.

Your second suggestion is, if I am correct, among the impossibilities. There can be no permanent cross, except where the species are nearly related. The mule is the result of the most notable cross known, but even in this case it can go no farther; mules are sterile. The bumble bee is much too far away. It is possible that the Java bee, or some which our friends Jones and Benton may hunt up, may give us such a cross as you suggest.

GIVING A NEW SWARM THE WHOLE HIVE.

One of my colonies sent out a swarm, May 7th, and I put them in the lower story of the hive you sent me this spring, but they would not stay in it at all. I put them in it 3 times, and the last time I put on all the hive, and now they are going right along with no trouble. It was a very large swarm, and I have come to the conclusion that they did not have room in half of the hive to do anything. Tell me what you think of the matter. My theory was to let them start in the bottom part first, but they would not stay in it by itself.

LEWIS STALLINGS.

Mc Adoo, Posey Co., Ind., May 15, 1880.

I would rather prefer, friend S., to let them get a good start in the lower story before going above, that they may be sure to locate the brood chamber below. Had you made the entrance very large, so as to give plenty of air, I hardly think they would have left on account of the size of the lower story being insufficient. If a single story hive is put right in the sun, the heat on its top might make the inmates uncomfortable; in that case, the upper story would be an ad-

vantage, without letting the bees up into it. A new swarm should not be put in the sun.

PAINTING HIVES.

In reply to a request, in your May GLEANINGS, for information as to the best material for painting hives, I would say that I am a painter, and that, in my opinion, there is nothing better than good white lead and pure linseed oil, either boiled or raw, or the two mixed in equal parts. If any other color than white is desired, a pretty drab may be made by the addition of a little burnt umber, or liquid asphaltum. I should recommend keeping the color as light as possible. Having then good lead and pure linseed oil, you have as good a paint as you can possibly get. The hives should have two coats, if possible, before being put to use, after which one coat every two years will keep them in good condition.

For first coat, mix in the proportion of 4 gall. of oil to 100 lb. of lead; for second coat, 3 gall. of oil to 100 lb. of lead, using the first proportion for all succeeding coats.

STOPPING JOURNALS WHEN THE TIME IS OUT.

My attention was called to the wrapper on GLEANINGS for June, by the printed notice. I was surprised that the year had passed so soon. I like the ring of that notice; it says to me that you intend to make GLEANINGS necessary to every one who is interested in bees, and that you know the value of your work, and are willing to let it stand or fall as it may deserve. I wish that every other publisher would adopt the same plan; it would result in either failure or a paying business. I like to feel that the book or any other thing is mine, because I have paid for it; that no one can dispossess me (or ask me if it will be convenient to settle that little bill to-day).

G. H. LEAL.

Susquehanna, Pa., June 3, 1880.

Thanks for both items, friend L. I am especially glad to know you catch the spirit of the last as I intended it, because some have thought it was a little rough. I certainly had no such intention, but only that we may have every thing kept up straight and clean, and no misunderstandings. Several friends have lately complained, and some of them pretty sharply, because GLEANINGS was stopped when they had a balance to their credit. Now the subscription clerk has no possible means of knowing that you have a balance in your favor, unless you tell her so; and, if she did, has she any right to use it to pay for GLEANINGS, unless you so direct? Some of you would talk pretty hard, if we should use your money to pay for GLEANINGS without being told to do so. We are your servants, it is true, but we have no right, in virtue of that office, to use your money for any purpose until you give us an order to do so.

MRS. COTTON'S HIVE.

Well, friend Novice, I have two of Lizzie Cotton's famous hives in my yard. A gentleman in a neighboring town wants two swarms of bees, and furnishes his own hives, and they are Lizzie's. There is nothing new about the hive; in fact, the idea is old; it is simply a large hive with six brood frames in the center. There is room for a set of boxes on each side of the brood combs, and space for top boxes. A board covers the frames. Our friend who brought them is very confident that they are

just the thing. "Why!" said he, "all you have to do to prevent swarming is to put on the boxes, and cut out the queen cells, and you have got them every time (?)."

If Mrs. Cotton has failed to respond to remittances of money sent her in the past, she has now adopted different tactics, and sends a small model hive by mail, like the above, for \$1.00 I believe. If the purchaser is well pleased as in this and another instance I know of in our county, perhaps it is all right for Mrs. C. to introduce her hive in this manner.

J. H. MARTIN.

Hartford, N. Y., June 1, 1880.

DIVISION BOARDS AND THEIR USE, AND FDN. FOR NEW SWARMS.

I now have my chaff hive painted and all ready for a swarm, and want to know what I am to do with *division boards*. Do I take them out when I put in the colony, and lay them away till fall, and then replace them again? Certainly there is not sufficient room for all the brood frames, if divisions are left in, and I am sure it will be very awkward to crowd the frames together when full in the fall, to put in the division boards.

I have some foundation comb; shall I put it in the empty frames before I introduce a swarm?

DR. SHAVER.

Stratford, Ont., Canada, June 7, 1880.

Division boards are never used at all, at any season, unless you have a colony so weak that it cannot fill the lower story. In winter, a colony can often be crowded on to 6 or 7 combs, and still have all the stores they need in the combs; in which case, they winter better with the brood nest thus contracted. If we could have all strong stocks, at all seasons, we should have no use for division boards at all with the chaff hives.—Put sheets of fdn. in your frames before hiving new swarms, by all means; they are the next thing to empty combs, and you will see what friend Doolittle says, on another page, in regard to the value of those.

SUBSTITUTE FOR WIRE CLOTH IN MAKING HONEY EXTRACTORS.

Take good strong cord, such as the merchants use for wrapping twine, and net it together like a fishing seine, making the meshes $\frac{1}{2}$ or $\frac{3}{4}$ in. wide. This I immerse in melted wax and thoroughly saturate before applying, and I find it to be equal to wire cloth, and far cheaper for thousands who are remote from places where wire cloth is bought and sold.

HOLLY HONEY.

I see that our southern honey is all classed among the darker and cheaper grades. I send you by to-day's mail a sample of holly honey, extracted last spring, and ask you to judge.

SOURWOOD

Is just beginning to blossom with us, and preparing for a large bloom. If you desire seed, I could supply you with any amount, as we have it in endless quantities. Soon the hilly portions of our forests will be white with its blossoms, and, should the weather be favorable, I expect to realize a large yield.

W. F. ROBERTS, M. D.

Clinton, La., June 7, 1880.

Very likely the waxed twine will do very well, but I am afraid, friend R., when you get some very heavy combs or some very

thick honey, you will find that your strings will give enough to let the combs bulge so as to injure them somewhat. We have had such troubles with wire, until we got very stiff wire, and had it well supported with tin bars.—The holly honey is certainly nearly as white as anything we have here, but why is it we have never heard of it before? I shall be very glad indeed of some sourwood seeds.

FROM AN A B C SCHOLAR.

I have had 4 swarms, and to-day one after-swarm. May 23d, I had one from the old hive; 25th, one "socket" from my last year's handful; 26th, another good swarm; 31st, a swarm from the one I got out of the woods. My other colony just "wiggled" through, and will probably not swarm in a week or so. I think there are a great many bee-keepers ahead of this, but, considering the little handfuls of last summer, that I had to build up, I think I am not doing so bad for an A B C "old man." Surely I will try to succeed.

RADISHES FOR BEES.

You wanted to know what kind of radishes mine were that the bees worked on so much last fall. I don't know what the name is; we have had them since we started keeping house, 25 years ago. I am short of seed, as those that were in blossom so late in the fall yielded none, but as soon as I can raise some seed, I will send you some. The seed can be sowed from April to the first of September for radishes and the flowers. I don't know whether the bees will work on it, if they have something better, but they preferred radishes to mustard. You can try when you get some seed, which I will send as quick as I can raise it. I believe you rather want short letters, so I will stop right here.

St. Johns, Mich., June 3, 1880. H. L. WARSTLER.

MOTH IN EMPTY COMBS, ANTS, AND PREVENTION OF SWARMING.

Please tell me how to keep the moth out of my empty combs, and how to get the moths out after they are once in, without marring the combs.—How can we keep ants from the hives?—If I let a hive swarm once, and in 5 or 10 days afterwards, transfer, and remove all the queen cells, will that hive be likely to swarm any more this season?

THOS. H. DUNCAN.

Oakland, Ill., June 9, 1880.

Brimstone the combs, according to directions in the A B C, and then keep them away from moth; or, better still, put them in hives where bees can cover them.—Keep ants out of the hives, by keeping them so full of bees that there will be no room for ants; also see "Ants" in A B C.—The swarming again depends entirely on the yield of honey. If honey keeps coming, the bees will swarm just as soon as the hive gets full, as in the first place. Cutting out the queen cells and transferring are only temporary remedies.

WHERE SOME OF THE TROUBLE COMES FROM.

Hives and smoker are received, and I am well pleased. My goods were delayed two weeks from carelessness, or "cussedness," of the agents of the express company. Instead of shipping them on to West Milton, as they were billed, they were put off

at Troy, O., and lay there about ten days, without giving me any notice. How did I find them? I sent to West Milton every day for a week or more, after receiving your card notifying me of shipment. The express agent at that place finally told me I would better inquire at Troy, as there had been numerous instances where goods had been put off at Troy, directed to West Milton. West Milton has a new railroad; hence the jealousy. J. P. BRANDON, M. D.

Laura, O., June 4, 1880.

I do not know but that word "cussedness," is a bad one to put in print, friend B., but as it means a spirit instigated by the Evil One himself, I do not know but that it is the right one. I do know that those who hold important offices for railroad and express companies, will sometimes delay goods purposely, just to vent some little personal spite to somebody, entirely ignoring the trials and vexations caused an innocent party, by their so doing. It is one of my hardest trials to bear such persecutions with meekness and a Christian spirit.

QUEEN CELLS; TROUBLES IN GETTING THEM.

What is the reason I can not get my bees to build queen cells in the combs? When I cut a hole in the combs, some fill the hole up, and some take the bees and larvæ away.

INTRODUCING QUEENS.

When you make an artificial swarm, and give the bees the queen, do they keep her? Mine won't. I gave mine a queen when I made it, and went back in about 5 minutes, and they had taken her out of the hive. I took her away and gave her to another hive. They did not fight her, and I let them have her. Is it necessary to put honey on their wings or not?

J. A. MCKEE.

Sparta, Randolph Co., Ill., May 3, 1880.

Cut out a long hole, friend M., in your comb, and put it in a queenless colony, and I think they will start cells without fail.—You speak as if you did not cage your queens when making an artificial swarm. You can seldom let any queen into a strange colony without caging, unless it is a queen just hatched; I would not put honey on the queen because, if she did not happen to be received, the honey would be likely to kill her.

MILKWEED POLLEN AGAIN.

I here enclose three honey bees. Can you tell me what is the matter with them? The bees in and around this part of the country are quite generally affected in the same way, and some of my neighbors have lost nearly every stand they had. They get such a growth upon their feet that they cannot climb up the hive. What is the cause? and what the cure?

JOHN COLLINS.

Parsons, Kans., June 7, 1880.

No disease at all, friend C., but only the milkweed pollen masses, samples of which we receive every year, about this time or a little later. If you will look in the A B C book, you will see it pictured out. I think you must be mistaken in thinking this the cause of the loss of your neighbors' bees. It annoys them without doubt, and may be the cause of the loss of some of them, but I think the main cause must be some where else.

HOW THE BEES LIVED IN THE ARK.

My inquisitiveness leads me to seek for a little more light pertaining to the honey bee. We read of different races of bees; where and when did they originate? If at or before the six hundredth year of Noah's life, how were they taken care of at the forty-day flood? We find in Genesis,—

And they went in unto Noah into the ark, two and two of all flesh, wherein is the breath of life.

And they that went in, went in male and female of all flesh, as God had commanded him: and the LORD shut him in. — GEN. vii. 15, 16.

According to this, queen and drone were the only ones saved of all different races of bees. I think it would be beneficial to importers to hunt this up. Please answer through GLEANINGS or by letter.

Goshen, Ind., May 30, 1880. AMOS P. BLOSSER.

I should be very glad indeed to give you the desired information, if I could, friend B.; but, if I am correct, this is one of a large number of questions that seem beyond the scope of human research. Some commentators take the ground, I believe, that the flood did not cover the whole globe, thus making it easy to account for the survival of not only the animal but the vegetable kingdom; but, if you care for my individual opinion, I should prefer to take the Bible as it reads, and as God did not deem it necessary to go into details, I am content to accept the statements without seeing just how it was done, until such time as he may see fit to reveal it to the earnest students of his word and works. Perhaps he took a nucleus, such as we get from Italy, and if there were different races of bees at the time, why not a nucleus of each variety? You know, friend B., we can easily prepare bees to stand 40 days.

ANOTHER TROUBLE WITH SMOKERS.

The goods you sent me last were very satisfactory, but I have some trouble with my smoker. I have very carefully studied your directions for using it, but I sometimes forget it and leave it outdoors, and, having no wife to help me remember to bring it in, it annoys me very much; for when I look for it in the place where it should be, I don't find it. I think, friend Root, I would get along *splendidly*, if I only had a good, kind wife to assist in these matters.

May 3, 1880.

E. H. M.

If you mean, friend M., by the word "assist," that you are going to assist the future Mrs. M., I entirely agree with you; but if she (poor woman) is to do all the assisting, I fear I shall have some misgivings as to the result of the partnership. You know "He who loseth his life," etc., and, if I am correct, this rule holds especially good in married life.

ALL IS WELL THAT ENDS WELL.

Mr. Root:—I received sections and separators a few days ago. I tell you I had a time putting them up. First, I doubled them up just as they had a mind to go, and I could not get 8 of them in a frame. Then, when I got them shaped right, I fixed up a story of them with sides where top and bottom ought to be. But I finally got them all right, and as we are having a good flow of honey, the bees went to work in them like good fellows. We are not having many swarms this year. Everybody that has seen my sections says they are the nicest things out for honey. One of my neighbors who has dined to the tune of \$10.00 for one patent hive was at my

shop, and he wants me to fit up 5 Simplicities and transfer his bees into them. Now, Mr. Root, if I am the biggest dunce in the class, just let it come out in GLEANINGS, and I will take the cap, and wear it until I quit making such blunders. J. L. BUGG.
Fredonia, Ky., May 28, 1880.

BUYING PATENTS, ETC.

I received my goods all right, and was soon busy at work. You must forgive me for my hurrying and sputtering so much, and I will try to do better next time. I want to build up a good trade for your hives here. A gentleman came 4 miles to-day to see those hives, and then he wanted to buy some of them; so you see I shall have to send another order soon, for there is another man about 7 miles away, who has sent word that he is coming, and must have some of those hives. You see my bees will be houseless, if I do not jump around, for the people have been pretty well "Mitchelled" around here, and have lost. One neighbor lost all he had, and Mitchell's agent talks of giving him another swarm to start with. Another Mitchell man near by lost all but one out of nearly 40 swarms; but the agent is not dead; he is hard at work on the people, blowing life into the dead bees, and *death into the live ones*. Oh, they were terribly put out with me last year, because I would not buy the right to use their hive. They told me my bees would all die in the way I was doing. Z. D. STJOHN.

Gustavus, Ohio, May 31, 1880.

FOUL BROOD.—AN IMPROVED METHOD OF USING SALICYLIC ACID.

Dear Novice:—As it might be of great importance to some of our fellow bee-keepers to know a very simple way of curing foul brood, we will give Herr E. Hilbert's improved method of curing the disease, but will say a few words about Herr Hilbert first, so as to make the readers somewhat acquainted with him, and the circumstances under which he made the discovery.

Herr Hilbert's residence is to be found in Maciejewo, Prussia; he is farming on a large scale, and keeps a good sized apiary for the profits as well as for his amusement. His position allows him to devote a portion of his farm land to honey producing plants. Especially the Chinese oil radish (*Raphanus Chinensis oleiferus*), he raises to a great extent. In 1875, he sowed 60 acres. Six years ago, Herr Hilbert found his apiary of 60 swarms badly afflicted with foul brood, and, as there was no remedy known then, he had to find one or lose his bees. It happened then, that Professor Leukart, in Leipzig, discovered the salicylic acid, and Hilbert, seeking for an antiseptic remedy, experimented with it on his bees. He succeeded in curing them, but the manner of treating the afflicted colonies, to effect the cure, was very troublesome and almost impracticable in a large apiary. Wishing to bring more light on the subject, and to help his fellow bee-keepers all he could, he kept on experimenting, and finally found that the fumes of the salicylic acid had the same effect, as the acid dissolved in water; therefore he constructed an apparatus, with which to evaporate the acid by means of an alcohol lamp with a small wick. We have sent for a sketch of the little machine, but have not yet received it.

The operation is simply this: An upper story of a hive is taken, in which the machine is placed, with the lamp lighted. The acid is now turned on (one sixtieth part of an ounce), and the hive set over it

with entrance left open. The generated fumes soon fill the hive, enter every crevice, and precipitate on the walls of the hive, on the bees, combs, etc.; it gets into the honey and the bee-bread and effectually and completely kills the spores of the foul brood. The operation has to be done once a day for several days in succession; then again after a week's time; then every two weeks, till cured. It is quite beneficial to feed the treated colonies with diluted honey or syrup, to which some salicylic acid has been added. If precaution is taken, not to heat the acid too much and not to use too much of it at a time, it will not injure the bees or the young brood in the least.

CHINESE OIL RADISH.

This plant produces only nectar, no pollen, and does best on very light, sandy soil. We tried the oil radish in our section, but our bees did not care for it any more than for common radish, when in bloom. Since 1877, we have not made any more experiments with it. The stalk of the plant makes fodder for sheep and cattle, and the seed is valuable for the oil it contains. GREINER BROTHERS.

Naples, N. Y., March 15, 1880.

Thanks, friends G. Will those troubled with foul-brood test the matter as given above? It would seem that the fumes of the acid must prove offensive, if not injurious, to the bees, but, of course, Herr Hilbert knows, if he has tried it. I should be very glad of some seed of the oil radish. The black flea is the great enemy here, of all of that family.

HOW MANY FRAMES SHOULD BE USED IN UPPER STORY FOR EXTRACTING?

Mr. Root:—Please let me know how many frames for extracting you would use in the chaff hive.

Paterson, N. J., June 1, 1880. WM. SHINTON.

The upper story of the chaff hive is made to contain 14 ordinary brood frames such as are used below: but, if I were going to work exclusively for extracted honey, I should put the frames farther apart, and get them built out very thick, so as to have less uncapping to do, and fewer frames to handle. I have often taken a quart of honey from a single comb, when they were thus built out thick. For this purpose, drone combs are just as good as any, and I am pretty sure the bees fill them quicker, on account of the large cells, than they do worker comb. I presume 10 of these thick combs would fill the upper story of a chaff hive, but the number is not material. If too close, the bees will stick them together; if too far apart, they will build a thin comb between them. If they are gradually moved apart, the cells will soon become so deep that the queen cannot lay in them, even if she should wander into the upper story.

"TEETING" OF QUEENS THE NIGHT BEFORE SWARMING.

A. I. Root:—Have you noticed that through the night before swarming, the queen is sounding her notes at intervals? Some of our bee men are in the habit of watching or rather listening for the note at night, and when they hear it they watch for the swarm. I see nothing of it in the A B C, hence I write about it. H. H. THORPE, M. D.

Liberty Hill, Tex., May 31, 1880.

The matter is alluded to under the head of "Queens' Voices," on page 180, of the A B

C. It is not often this "teeting" is heard before first swarms issue, unless they have been kept back by bad weather, or some similar cause; for first swarms, as a rule, issue before the young queens are old enough to call. Second swarms cannot issue until a young queen is hatched ready to lead them off, and as two or more often hatch at about the same time, they will be very likely to call to each other, the evening before they come out. Hence, you may tell almost to a certainty when second swarms may be expected, by putting your ear against the hive in the evening, a few days after the first swarm has issued.

QUEENS TO CANADA BY MAIL.

A. I. Root:—I received the queens all right. The selected queen came through the mails without any extra charges.

GIVEN'S FOUNDATION PRESSED.

I received one of D. S. Given's presses, and find it just about as you reported in May GLEANINGS. The bees commenced to work very readily on the fdn. I used soap but washed the sheets after being pressed. I leave the sheets large enough so that there is a portion on the upper edge not pressed, to give strength in lifting them. JAS. MOFFETT, JR.

Pendleton, Ont., Can., May 28, 1880.

THE LILLIPUTIAN PLANERS.

Mr. Ed.:—Sometime ago, I noticed an advertisement of the Lilliputian planer, it being the same you now advertise. I came to the conclusion that it might be just the thing for me to dress my lumber for hives with, so I ordered one. In about 23 days, it came. I set it up, and was surprised to see how fast and nicely I could dress my lumber. I think, with a two horse power, I can dress one side of 5,000 ft. of lumber in 10 hours. If I could not replace it, I would not take \$500.00 for it. I. B. BRAY.

Lynnville, Tenn., Mar. 15, 1880.

COMB HOLDER FOR THE CHAFF HIVE.

I have in use, on my chaff hive, a strip of wood $\frac{1}{2}$ inch x $\frac{3}{4}$ inch, and as long as the inside of the cover. This is fastened in the center, by one nail, to the top of the upright edge of the hive over which the cover shuts, and at the front of the hive. Now, when I stand at the side of the hive and take out one, two, or three frames, I swing the end of the strip farthest from me about two inches toward the middle of the hive, and hang the frames across one end on the back of the hive, and one end on the strip. This gives room to look over the whole hive, and does not scatter bees or queen. N. CLARK.

Sterling, Ill., June 2, 1880.

Thanks, friend C. Your device is very simple, and easily tried, and if the boys are careful not to pull it off or break it, I do not know why it will not answer every purpose.

SPIDER AND SIMPSON PLANTS.

The spider plant seems to be very tender. Of the first 5c package I had of you, I only succeeded, with all my pains and trouble, in getting about a baker's dozen to grow. Of the Simpson plant seeds which I scolded you about, after nursing them carefully and tenderly from Feb. till May, I got 4 fine plants to set out; but I don't know how many I pulled up for noxious weeds before I knew what they were. Now I see they grow spontaneously all over this country. Why don't you call it "Carpenter's square?" Then

every boy and every old woman will know what it is. Or did you give it a new name to get to sell the seeds? Had I known it would sell, I could have had seeds to sell myself, instead of having to buy. Well, it is all right. But, to return to the "spider plant:" I think if the honey partakes of the flavor of the plant (which no doubt it will), I should not want to eat at the same table where it was. I know that hoarhound honey is about as bitter as the hoarhound candy that we buy; but then it is good medicine, if not such palatable food. J. COPELAND.

Allendale, Ill., June 5, 1880.

Gently, friend C. Had I wanted to make a speculation on these plants, I should hardly have offered them in 5c packages, and paid postage besides. I gave it by the name of Simpson's honey plant, before I knew that it was known by other names, and, to prevent confusion by changing names often, I thought best to hold that name; but, in the A B C, I have given you not only the name carpenter's square, but several other names by which it is known in different localities. As the botany seems to give the name figwort as the most appropriate common name, I have indexed it as such in the A B C. A practiced gardener will make the seeds of either of the plants grow in great abundance, although I at first failed with it, just as you have. Our neighbor Irish suggests that the soil be baked in an oven, to kill all the weeds, before planting something new to you, and then all that comes up will be the plant you are seeking, without any mistake. I do not know what the honey from the spider plant may be like, but as that gathered from seed onions loses its flavor before being sealed up, I have no fear but that this will be all right. The drops that hang from the flowers have a beautiful crystal clearness.

PAINTING HIVES INSIDE.

I propose to shellac all my hives inside and out. I think it will stand the weather better than paint. The great trouble with paint is, that it soon becomes dead. The oil penetrates the wood, leaving the lead and coloring matter. The shellac for the outside coats can be colored any desired shade, by using dye stuff, or mixing dry paint with it. What use is there of our painting and protecting the outside of our hives from the weather, and allowing the inside to absorb all the dampness? Is it any wonder our hives warp and crack so soon? I think we should make our hives *water tight*, inside and out. How would one coat of beeswax answer for the inside, put on *hot* with a brush? If well done, water would never affect them. I would like to hear through GLEANINGS from those having tried it.

JOS. M. BROOKS.

Columbus, Ind., June 7, 1880.

LAZY MAN'S BEE CANDY.

By this day's mail, I send you a sample of my cheaply made bee-feed. Of course your girls [see p. 286, June No.] used too much flour for warm weather, and perhaps for any time. But I misled you. It was a mere accident that I thought of speaking of it at all. After writing my letter, I thought of the easy way in which I had fed my bees, and hence jotted down the formula, just guessing that the proportions used by you in your cooked candy would answer; when, in fact, I had been governed simply

by my judgment as to how much flour would act as a cement, holding the sugar together in a moderately soft cake. I had some of this feed on hand all winter, and fed it out in spring, and it kept all right. Just use enough flour to cake the sugar; use a little more in winter, if you choose, when pollen is needed worse than in summer and you will see this is a success. It beats boiled candy to death. The surface of this candy should be dampened with a sponge when given to the bees, just to give them a start on it. G. W. DEMAREE.

Christiansburg, Ky., June 8, 1880.

Many thanks, friend D. The sample you sent is exactly what we want, not only to feed bees, but to make candy for shipping queens. It has the property we have talked about, in back numbers, of becoming dry and hard on the outside, forming a crust, as it were, while the inside is moist and just right for the bees. Your sample cake is hard and clean to handle on the outside, while the inside is so soft and moist, that I have no doubt but that it would answer to ship bees safely, without any water. If this proves to be the case, we shall be enabled to dispense with our expensive water bottles in the queen cages. I am a little afraid, however, that even so small a quantity of flour will get to be offensive in hot weather, but it would seem so much sugar should preserve it.

SWARM CATCHER FOR ISSUING SWARMS.

We have been using a "swarm catcher" here with some advantage. It is a wire net. When a swarm begins to issue, it is held in front of the hive, and the bees rush into it. Any bees ahead on the wing soon return and light on the outside. Where many bees are kept, several swarms are apt to issue in quick succession, and generally unite. Many, by this device, are secured and kept separate.

La Porte City, Iowa, June, 1880. JESSE OREN.

The only difficulty with such swarm catchers, friend O., is that they must be applied to the hive at the exact moment when the swarm starts out, and, even in an apiary of a hundred colonies, the cases are so rare where we can catch a colony right in the act, that I should hardly think such a contrivance of any very great utility. They have been several times suggested, but I have not learned that they have come much into use. When several stocks start out at once, on account of hearing another, they might prove very convenient, if right at hand, and in charge of an apiarist who could get around lively at such a time.

RAPID INCREASE BY ONE OF THE A B C CLASS.

Last year, I ordered 2 Italian queens of you, and introduced them to colonies that grew up to be very strong, and this spring I had 4 colonies of bees, 2 of them Italians. Upon the 4th of May, I commenced artificial swarming, with my 2 Italian swarms. In 15 days, one of these artificial swarms threw out a large natural swarm, and now has its hive pretty well filled. Upon the 29th of May, I again divided and subdivided, so that now I have eight Italian swarms, and 9 Italian neucleus swarms. "How ish dat for high?"

NO ROSE WITHOUT ITS "THORN."

Of course, upon one occasion, a busy bee introduced its business end into the bridge of my proboscis,

which so horribly disfigured my facial delininations that I at once became a laughing stock of all those who gazed upon me, and the corpulency continued so long that I almost concluded I would have to use some anti-fat preparations; but happily it passed away of its own accord. Bee pasturage in this section is very good at present, as we are having an abundance of white clover in full bloom, but nights are too cool, and days too windy, for bees to work at any great advantage.

I have a strong colony of Italians that are killing off their drones. What is the cause?

Rogersville, O., June 7, 1880. DR. H. J. PETERS.

Pretty well "for high," indeed, friend P., but be sure you do not keep on increasing until next fall finds you with a great number of weak colonies. There is little danger in this respect, however, with artificial colonies made so early, for even weak nuclei, started in the month of May, will ordinarily build up to strong colonies during the season. The killing off of the drones indicates a slacking up of the yield of honey, and bids you beware about more increase for the present.

LOCUST PLANTING.

The locust may be readily propagated from root cuttings. From seed or cuttings, in from 20 to 25 years, good sized durable fence posts may be had. Land once devoted to locusts is likely to remain so, as from the stumps and roots of those cut large numbers spring up.

RETARDED DEVELOPMENT OF QUEENS. (See page 285, June No.)

May 7th, I formed a nucleus. On the 18th, or 11 days after, queen cells were started. On the 20th, the same were sealed. I raised three queens in this nucleus. Last August, as soon as my imported queen was received, I gave one frame of eggs to a queenless hive, watched carefully for 9 days, thought all brood was sealed, and could find no queen cell at all. I thought it too late to raise a queen. Two or three days later, however, on examination, I saw two, small, badly shaped queen cells sealed. I cut one out and placed it in another nucleus. Both produced such small, dark queens that I did not value them much, but I fed and tended them, so that this spring they were the two strongest colonies I had. I sold them in two-story Langstroth hives. To-day, the owner of them has from them 5 swarms, and each second story with 7 frames filled with honey. Some of the swarms are in old boxes, with rough, small boxes over them, called caps; bah! All the queen cells I have had this spring were built on foundation just drawn out; were small, badly shaped, and produced small, dark queens; but "the proof of the pudding," etc. You just ought to see what good layers they are. I am satisfied, and think my imported queen worth all she cost you. I believe she was one of the 6 survivors out of a large invoice you received last August.

FOUL BROOD.

Thinking that I had foul brood, I have refused to sell queens or bees, the ones mentioned above being sold before I suspected the disease. I have taken full notes on foul brood. To-day, I have a queen laying in the infected hive, without having destroyed a comb, hive, or anything belonging to them. Would you like to have the notes?

DYSENTERY AND THE AGENCY OF POLLEN IN PRODUCING IT.

During the fall of '78, I could not feed my bees. The winter of '78-9 was cold and dry. I lost 17 out of 29 colonies, and all were affected more or less with dysentery. Last summer, and fall, I fed, to 20 colonies, 300 lbs. of brown or New Orleans sugar. Winter was very mild. During the most of Jan. my bees were flying and carrying wheat flour. From Feb. 1st to 9th, the weather was cold, so that they could not fly. On the 9th, the weather being warmer, I found some colonies affected with dysentery, and stopped the flour. By Feb. 18th, the dysentery had all disappeared. The dysentery spots looked like flour and water. Last year, they were the color of natural pollen. Honey (carbon, oxygen, and hydrogen) is all consumed in keeping up the animal heat, while pollen goes to build up the solids of the bee. The undigested part of the pollen has to be voided, as a solid or liquid excrement. After mature thought, I conclude that bees which are forced, by scant stores, to eat natural pollen, as well as those that are induced by unusually warm winter weather, to consume artificial pollen, are both likely to have dysentery. The bees all had sufficient pollen the last winter, and only those that carried flour freely were affected. The affected bees were in good, chaff hives, while those in common, Langstroth hives were not affected. The short confinement of 8 days was not enough to induce the disease. Let us all work and watch, and we will be likely to find the truth.

A. W. KAYE.

Pewee Valley, Ky, June 4, 1880.

In the A B C, p. 165, I have mentioned the agency of pollen in producing dysentery. This cannot always be the case, however, for stocks frequently raise brood all winter, even when confined in a cellar; and, to do this, they must consume pollen largely. In the case given above, it would seem as if the artificial substitute for pollen was especially productive of mischief. It is well to look into all these points. It would seem from this that friend Demaree's candy (see p. 332) would be better without the flour, for mailing queens.

HONEY FIT FOR KINGS AND QUEENS; THE PRINCESS LOUISE AND HER INTEREST IN THE ONE POUND SECTIONS.

I am an amateur in bee-keeping, and as yet own but one hive, which I purchased last year, from Mr. Taschereau, a neighbor of mine, a gentleman who has done much to spread the knowledge of the honey bee in our vicinity. Last year, or last summer, to be more particular, some of his honey found its way to the vice-regal table, and its fine appearance and neat frame (it was in section boxes) astonished the Princess Louise, who had never seen honey in so nice a form before. What puzzled her most, however, was that each box contained just a pound of sweets. She could not understand how bees could be so exact in their calculations. In a word, her curiosity was so excited, that it had to be allayed, and a visit to Mr. Taschereau's apiary was the result.

By the preceding, you will observe that bees are quite aristocratic gentry, in our aristocratic, old city. Even royalty deigns to call upon them.

Mr. Taschereau has disposed of all his German bees and begins this spring with Italians.

DR. L. F. BURROUGHS.

Quebec, Canada, May 28, 1880.

MANY EGGS IN A CELL, ETC.

Friend Root:—Please find one dollar for GLEANINGS for another year. I am an A B C scholar, and a dull one at that. I thought I was ready to advance to the next lesson, but my bees have taught me that I am not ready for promotion. I have been reading to pick up an idea of some way of increasing our colonies in strength as early as possible, to store honey when the harvest comes; and notwithstanding the absolute rule of one queen, sometimes it seems there are two occupying the same hive at the same time, and in perfect harmony, which would give us a populous colony speedily. Again I have been observing the difference in the fertility of different queens. But to the point I wished to make: I have a black queen in a very weak colony. I observed the other day that she was laying eggs like the hens, whole nests full, as high as seven eggs being in one cell, and a great many cells containing 2, 3, 4, 5, and 6 in a cell; but they don't seem to hatch. Three or four days is the usual time allowed by writers and observers for hatching, but these have been in the cells for a week, and have not hatched yet, and remain as laid in the cells. What will they do with these eggs? But one bee can remain in the cell. Will they take them out of the cells and deposit them in other cells? or will they all be allowed to hatch and be disposed of after hatching? Do they ever take an egg out of one cell and place it in another? DR. E. T. POLK.

Louisville, Ky., May 12, 1880.

It is not very unusual to find two or more eggs in a cell, especially where a colony is too weak to give the queen room. She then lays all the cells full that are ready for her, and then, for want of something else to do, goes around and puts in extra ones. Only one egg hatches, because no egg can hatch, if I am correct, until the bees have covered it with their milky food. As they only care for a single one, the rest do not hatch. I do not think the bees ever carry them to other cells, to make any use of them; they could not well do it, because, at such times, they have no empty cells for them. If they had, the queen would fill them. Bees can remove eggs or larvae for the purpose of queen rearing, but I do not know that they ever undertake it for any other purpose. Queens may also become so decrepit from old age, as to lay several eggs in a cell. Drone laying queens and fertile workers almost always lay several eggs in a cell, but, as a general thing, they do not fill all the cells regularly, as does a normal queen.

TENEMENT HIVES, REPORT FROM.

Mr. Root:—I have eight swarms of bees which I wintered in tenement hives of my own make. I packed them with buckwheat chaff. All came through the winter, and were stronger in the spring than they were last fall. One of them cast a very large natural swarm on the 27th inst., and I am expecting three more as soon as the weather clears up.

W. A. GREGG.

Callicoon Depot, N. Y., May 30, '80.

WHERE SOME OF THE TROUBLES COME FROM.

The enclosed P. O. order was returned to me from the dead letter office to-day, the trouble being that it was mailed without stamping. This was another of the results of misplaced confidence. I sent the

letter to be mailed by a neighbor, with the money to buy the stamp, which he neglected to do from sheer forgetfulness. Sorry you are compelled to wait so long for your money, but it explains some mysteries.

WALLACE YOUNG.

Casey, Clark Co., Ill., May 29, 1880.

It is bad, I know, friend Y., but do not be too severe on your neighbor; you and I make mistakes too, but I hope we are all learning to overcome these little weaknesses that seem to cling about us in spite, almost, of all we can do.

STRONG STOCKS VERSUS CHAFF CUSHIONS.

My 63 stocks of bees, 5 of which were three frame nuclei, have all come through safe, with the exception of one queen. She was raised last July, and died in April, leaving but little brood in her hive. I believe in strong stocks of young bees for wintering. I looked over all my Simplicity hives April 23d, and found one that was left without any packing, with only a piece of carpet and the frames. This stock had brood in 8 frames, and 4 of them were full of brood and eggs from top to bottom; while some that were put on 5 frames with chaff division boards on each side and a quilt on top did not have over 3 frames of brood.

GRAPE SUGAR FEEDING OUTDOORS:

I commenced feeding grape sugar on April 1st, and in the first four days, they carried off 3 gallons of syrup. Then the peach and plum trees came in, and I fed them no more till last Thursday; since which time they have carried off 2 gallons each afternoon, although the raspberries are in bloom, and the bees are thick on mine till after sundown. There is over an acre within 1½ miles of me, and not over a dozen hives of bees besides mine. Now, how much syrup should they have? They empty a ½ gallon can twice, from 7 o'clock in the morning till night, on my grooved board, and they crowd around the jar so thick that the syrup does not get half way across the board, which is 1 foot square. I cut the grooves with my wood saw and then nailed strips around it and run wax and rosin around to prevent leaking. Although they are taking so much syrup and working on the raspberries, some of them are driving out their drones. Several of them were so full that the bees were piled outside at 5 P. M. yesterday, and did not all get in during the night. I think I will cut their rations down ½ to-morrow, as the black locust trees are coming into bloom.

ALIGHTING BOARDS.

I make mine out of any kind of scrap lumber that is not sappy, and when I get them ready to nail I paint the surfaces that come together with thick paint, and nail immediately, and then paint them all over, top and bottom. I think the side that fits up to the bottom board of the hive needs painting as much as the top side. My bees and my garden keep me so busy that I have no time to read or write except at night.

C. T. SMITH.

O'Fallon, Ill., May 10, 1880.

I do not think it very material how much you feed them, friend S., providing they have enough to keep brood rearing going on, and do not kill off their drones. Of course, you do not wish to feed so much as to have very much grape sugar stored in the hive. When rearing brood largely, they will use daily an amount of stores that is sometimes surprising.

FUEL FOR SMOKERS, THAT WON'T "GO OUT."

For a long time, I have been intending to write you how to make a smoker work all right. Having been bothered by the smoker's going out just when I did not want it to do so, I thought of the plan we boys used to use, on the Fourth of July, to light fire crackers; that is, to take a piece of cotton rope, and set one end on fire, and it would burn all day. So I cut the cotton rope about as long as the fire barrel of the smoker, then rap it with cotton cloth (old shirts are good), and tie with a string. It should about two-thirds fill the chamber of the smoker. Light with a match, and get it well going, and it will burn all day without going out. Try it and be convinced. If it burns too fast, just lay the smoker on its side; and, when you want it strong, let it stand upright. Of course, the rope and cloth must be dry, and, to have it so, I always keep them in a room where there is a fire, as cotton will absorb dampness from the atmosphere. I have never seen anything of the kind spoken of in the bee journals, but it works all right, and as this is the time of year when we need good smokers, it may be of advantage to some.

MARCUS D. DUBOIS.

Newburgh, N. Y., June 9, 1880.

Thanks, friend D., your idea is a modification of our roll of rags, and it comes just in time for the bees, and Fourth of July too.

HORSEMINT AS A HONEY PLANT.

My bees are doing splendidly. I commenced this spring with 10 colonies, and now have 13. The increase is from the queen you sent me last December, which is the most prolific queen I ever saw. If she is leather colored, I don't care. I built up the one-half pound of bees that came with her, to a strong colony, which, on the 11th of April, I divided to keep them from swarming; then, on the 30th of May, I took 3 frames with bees and hatching brood, and still the hive is full of bees. We are having a powerful flow of honey now from horsemint, which is equal to white clover. The bees are crowding out the queen in spite of all that I can do. I don't like to use the extractor, until the honey has time to ripen.

J. S. TADLOCK.

Kingsbury, Texas, June 7, 1880.

You did extremely well to build a queen and a half pound of bees into a full colony in the time mentioned, even in your mild climate, friend T.—A great deal was said about horsemint as a honey plant in our back volumes of a few years ago, but we have had little or no report from it of late. If I am correct, it is related to the bergamot family, and to our common wild balm of the woods. It is also of the same family as the *Monarda punctata*, which has been sold so much as a honey plant.—Tier up your hives, friend T., by putting a story filled with empty combs or fdn. under your filled combs, until the honey is ripened enough to extract.

MITCHELL, ETC.

I am a beginner in the bee business and did not know any thing about it when I began, but have had very good success so far. I had to read and then try to do the best I could. I got hold of N. C. Mitchell's books, and, of course, got my pay for it. I wish some one would "haul him over the coals;" he needs to be put where he cannot advertise quite so much. We have had a hard winter for bees this last

year. One of my neighbors dropped from 30 to 8; another from 20 to 6; I put up only 4, and lost one. I thought I was lucky. I used chaff cushions, and think that saved mine.

A. F. DUNTON.

Chippewa Falls, Wis., May 30, 1880.

DO BEES SLEEP? ETC.

"Blue eyes" wants to know if the bees sleep?

Two coats of white lead, and one of French zinc seem to be very durable on hives. The zinc is high priced, but goes a great ways. Our 20 chaff hives saved all but one swarm that was in them; lack of fall care ailed that one. Eight in Simplicities also did well in the cellar. In the spring of '78, we had 4 swarms in box hives; we increased to 28, and got 437 lb. of honey in sections. Too much swarming? Yes!

J. S. WILSON.

Sterling, Ill., June 2, 1880.

Tell "Blue Eyes" that we cannot discover that bees ever sleep nights, as we do, for they do nearly all their comb building nights, and when there is a heavy yield of honey coming in, they seem to be busier nights, if possible, than during the day. I have never, either, been able to see that bees take any rest from their labors, unless it is to rest in front of the hives when coming in heavily laden; and then they only rest long enough to recover sufficient breath to get in, on to the combs. During the summer season, a bee works from the minute it crawls out of the cell until its wings are worn to stubs with hard work, and then it hops about until too weak to hop about any longer. During the very first day of its life, it is on the move, crawling incessantly over the combs, and all about the hive. When they hang in clusters, preparatory to swarming, or while the wax scales are growing out of their bodies, they may be said to be in a state of rest, but it can hardly be called sleep. The nearest approach to sleep is when the weather gets so cool, that they tie themselves in knots, as it were, and assume a semi-dormant condition; but this can hardly be called sleep, or even rest, for it is not after they have been at work; and, in fact, the bees that take this kind of rest are often those that have never done any work at all outside of the hive.

THE ALL-IN-ONE-PIECE SECTION.

Mr. Editor:— Will you have the kindness to set us right before your readers in the "Lewis Section" advertisement as per your last GLEANINGS. We want to say to your readers most emphatically that there is no patent on the Lewis Section, and we trust that you will ascertain officially from the Commissioner of Patents, that what we say is true, and report the same to your readers. This we trust you will do in justice to us.

LEWIS & PARKS.

Watertown, Wis., June 12, 1880.

I published friend Forncrook's advertisement, in our last number, it is true, but I did it because I hated to appear so uncourteous as unnecessarily to refuse to receive an advertisement, and especially in regard to a matter that had been so much before us; but I supposed my remarks on p. 285 were plain enough to indicate my opinion in regard to the validity of such a patent. If I am correct, the controversy originally arose in regard to the one to whom the honor of first making such a section belonged, and as

to whether it should be termed the Forn-crook section, or the Lewis & Park's section. As is usual in such cases, the parties became warmer and warmer in the contest, and our friend F. applied for and obtained a patent, more to demonstrate his position, than to try to monopolize the section business. I suppose he has a patent, or he would not say so; but the fact is, he would have had little trouble in getting a patent on almost any thing else belonging to modern bee culture, because the patent officials are entirely ignorant of what is in use. If I am correct, friend Forncrook does not intend to try to interfere with anybody who makes them, but simply to insist on his right to the credit of being the original inventor, or perhaps more properly introducer, of this precise form of section. Do not let us be in any great hurry, friends, to roll up our sleeves for a fight. We have written to the Commissioner of Patents, to get a copy of friend F.'s claim.

DRONES WANTED, AN A B C SCHOLAR'S TROUBLES.

Friend Root:—I am in a "peck of trouble." I hate to bother you now, knowing you must be busy, but I can not find what I want in the books. I have got a *virgin queen*, and only *one drone*, and he is in another hive. The queen hatched last Saturday. I commenced this spring with two swarms,—one Italians, and one blacks. The Italians swarmed June 2d, and the blacks June 8th. Both were transferred during fruit bloom. I used fdn., and cut out all drone cells. Last week I found several drones in the black colony and pinched their heads off; but, so far, have found but one drone in the Italian hive. This queen was hatched in a nucleus hive. Now the question is, will she meet this *one drone*? There are no other bees within a mile of here, and none in the county except blacks. This queen is a fine one, and I don't like to have her meet a black drone. This was my object in pinching off the heads of the black drones, thinking, of course, there would be enough drones among the Italians. Do you send out drones? I have never read anything about it. If you think I need any more drones, send them along, and I will remit.

The queens you sent me arrived safe. I introduced one to the black colony all right, but lost the other one. I left the cage on the frames all night; in the morning, all was quiet, and about a dozen bees on the cage; I opened the cage and let her out; but, before I had time to think, one of them stung her. I know how it is done now,—I mean the stinging.

White clover and motherwort are booming. As yet, I haven't seen a bee on clover, but the motherwort is covered with them. Pardon me for writing so much, but when I get to going, I don't know when to stop. GEO. H. MCGEE, A B C Class.

Marblehead Light House, O., June 14, 1880.

Do not worry about the drones, friend M. Your queen will get fertilized at this season of the year, without any question; but the chances of her meeting your *one drone* are so slim that we might as well call it an impossibility. You do not know of any bees near you, perhaps, but I assure you the queen will find drones in the woods, and as they often fly several miles from their hive, a queen seldom fails of finding plenty of

them, during the swarming season. For the reasons above given, I have little faith in the utility of buying or selling drones, unless you could get several thousand, and then your queen would be more than likely to meet those from some distant hive. See "Drones" in A B C.

A COLONY THAT WON'T REAR A QUEEN.

Friend Root:—I have a queenless colony which I cannot get to rear a queen. They build plenty of cells, but there is no larvæ, or anything else in them. I gave them a comb of eggs, and a comb of hatching brood. They started 6 cells. I examined them the 3d, 6th, and 10th day, and there was nothing at all in any of the cells. I then put a piece of comb in the center of a strong colony, and let it stay 3 days, when it was nearly full of eggs. I put it in the center of the queenless colony, and, on the 3d day, examined it, and they had started queen cells. On the 8th day, I looked again, and there was not a thing in any of the cells. Whose fault is it, mine or the bees? Just give me your hand, friend Root, and help me over this trouble. Tell me what to do, for I am a very young A B C scholar.

I commenced this spring with 2 old, box hives, given me by a friend. They cast one swarm each, so I had four. When I got the A B C book, I transferred them into movable frame hives, and made two artificial swarms. I can handle the bees without veil or smoker. I keep the veil you sent me for visitors.

I thought I was getting on well, but this thing bothers me terribly. They *must* raise a queen, and I want you to tell me how to make them do it.

J. J. SIMPKINS.

Summerfield, Dallas Co., Ala., June 10, 1880.

I have never seen a colony behave just as you describe, friend S., but somewhat in the same way. I am inclined to think they have a fertile worker, or some sort of a half drone and half worker, but I would not fuss with them longer, in the way you are doing. Break them up, and reconstruct them; perhaps the best way of doing this will be to swap places with some other hive, watching both to be sure they will not fight. The bees of the stubborn colony will then have a good queen, and a new set of combs filled with brood, and it will be strange if they do not go in and go to work. The old combs will be covered with steady industrious bees, and these will build queen cells, without question. If you have put in brood enough, the young bees, when they hatch out, will without question build good queen cells, and you may succeed without going to the trouble of the plan I have given. It should be remembered that a hive of all very old bees will seldom rear good queens.

ANOTHER BEE-KEEPER GONE—ON A WEDDING TOUR.

F. W. Dryor, of this place, was married on the 16th inst., and started to Denver, Col., on a short trip. He has introduced a queen to his hive. May she prove to be a good worker, as he is, in that "Sunday school on the hill," and may she never swarm and leave him, but always keep his hive in good order, and help to take care of the stores he may collect.

Wyandott, Kan., June 18, 1880. J. A. N., 39.

Very good, friend N. I am interested in this matter, especially that part about the Sabbath school on the hill.

Notes and Queries.

"DOLLAR QUEENS,"—THE TERM A MISNOMER.

CAN you tell me who invented the term "dollar queen?"—who it is, if now living, that has dragged the queen business down to a level with the "dollar store" fraud, of which even the brazen-faced sharp dealers have become ashamed? But you say in reply to my objections to such double dealings, that the word "untested" cannot be understood, etc. Well, Mr. R., I should think that Webster, if consulted, would explain what "untested" means. Friend R., why does not the word untested mean that the queen has not been tested? I see you advertise "dollar queens" at \$1.50, etc.

I should think you might find a good text; viz., "Dollar queens" at \$1.25 and \$1.50, to preach one of those monthly sermons from; but I am not aiming to be ironical. G. W. DEMAREE.

Christiansburg, Ky., June 9, 1880.

[Charity, friend D. When we first went into the dollar queen business, no one seemed to think it possible that queens would ever be furnished every month in the year, as they are now, and when customers began to demand them in April, it was found a necessity to inform them, if they must have them so early, they would have to pay more. Meantime, however, the name had become a household word, and it would have been no easy matter to change it, even had we tried. Could you know, as I do, of the confusion and hard feelings it makes to change names on staple commodities, you might think the name would do very well. One objection to the word "untested" is that a great many will have it that it means unfertilized, and even now we have postals all the time, asking if the dollar queens are fertile. Everybody now knows the term "dollar queen," and it seems too bad to change it; but, as the prospect now is that a nice queen will soon be sold at retail for 75c., I presume we may well think of a different name. What do the friends say? Shall we have it "untested?"]

BEEES THAT "DON'T KNOW ENOUGH TO GO IN WHEN IT RAINS," AND THE REMEDY.

I have 2 stands of bees,—no increase yet this season. Sunday, May 30th, I found large quantities of bees lying all around in front of the hives, and on the ground; all returned to the hive until Sunday morning, June 6th, when I found them in the same condition. A severe storm all day Sunday kept them drenched, so that many of them perished. All that were alive returned to the hive when the sun came out Monday morning. What is the reason?

R. M. MORRILL.

Plymouth, Marshall Co., Ind., June 8, 1880.

[Your hives were so full of bees, friend M., before swarming, that they were crowded out, as is often the case where they are not attended to by giving them sufficient room. During sultry weather, they often not only cover the sides of the hive around the entrance, but get out on the ground as well. When the hive is very much crowded, they often stay out during rain storms, and when it turns suddenly cold, they sometimes get so chilled as to die. Aside from the danger of having the bees killed by bad weather, it is a sad waste to let the hives get so filled up, that they are obliged to hang out in idleness.]

CYPRUS ISLAND; LATEST NEWS BY TELEGRAM.

Arrived home, with queens, safely.

Beeton, Ont., Can., June 17, '80. D. A. JONES.

NOTIONAL BEES, AS WELL AS BEE-KEEPERS.

It is nothing queer that some bees eat grape sugar, and some do not; I had a stock this spring that refused to eat candy made from white cane sugar. It was not weak either. JOHN C. GREENLEAF.

Burrville, Conn., June 16, 1880.

NEW HONEY.

I yesterday took 64, one-pound sections, all from one chaff hive. This is the second time honey has been taken from this hive this season,—not less than 20 lbs. the first time. Neighbor B. took 64 lbs. from a Langstroth hive yesterday, and still we do not know where the honey comes from. White clover is in bloom, but we rarely see a bee on it.

Pewee Valley, Ky., June 12, 1880. A. W. KAYE.

[I think, if you look sharp, you will find it comes from red clover, friend K., but I may be mistaken. If I were you, I would follow them up, and find out where they get the honey.]

THE RED-CLOVER QUEENS.

Your "red-clover" queen came to hand last Thursday evening. She was in first rate condition, and so were all the bees with her. She is the most insane thing I ever saw. I took 4 empty combs, put them in a hive, removed a strong colony and placed the empty hive on its stand, and, after leaving the queen caged 12 hours, I tried to introduce her; but, although the bees would have accepted her, she was such a fool that she nearly lost her life several times. When I let her go she took herself off, and staid off for 10 or 15 minutes, and when she came back I spoiled her flying machine.

I have tried 3 or 4 times to introduce her, but with the same luck. She says, "zeep, zeep, zeep," and away she goes, and the bees get out of patience and take after her. I now have her on hatching brood. A more nimble queen I never saw; strong also.

F. W. COMINGS.

East Berkshire, Vt., June 15, 1880.

CUTTING UP STARTERS ON SUNDAY.

The fdn. came all right. I wrote to have it cut in small pieces ready to set, but I can get along with that. I can stay at home from church one Sunday, and cut it, if my wife will allow it.—HENRY HALL.

June 20, 1880.

P. S.—There was twice as much fdn. as I expected to get for the money. H. H.

[Now look here, friend H., I vehemently protest, and hereby entreat your wife to absolutely forbid any such doings. Fdn. packs and ships much more conveniently, in the strips, and it is but a very little work to cut up these strips with a sharp knife dipped in starch, by taking quite a pile of them at a time. If you got twice as much as you expected, you can certainly afford to cut them up on week days, can you not? God will not send you a good flow of honey, if you break the Sabbath. Just you take notice and see if Sunday work prospers.]

RED CLOVER.

My bees are working more on the red clover this season, than on the white and Alsike.

ALBERT L. ENTRICAN.

Westville, Mich., June 17, 1880.

EXTRACTING THE "WIRES."

Fdn. received all right, and some of it worked out into nice comb. Will I need to extract the wire from brood frames after the fdn. is worked out?

F. H. SEARES.

Girard, Pa., June 7, 1880.

[To be sure not; what ever put such a queer idea as that into your head, friend S.? We want the wires there to keep the frames strong.]

DESIRABLE (?) POINTS IN A QUEEN.

I want a queen from your own apiary, that you know has the "turpentine" in her, as I have engaged a good many queens, and I will have to keep her on the nest all summer, feeding her red peppers and charcoal, and perhaps bone dust, etc.

A. W. ANDERSON.

Cambridgeboro, Crawford Co., Pa., June 2, 1880.

UNDESERVED KIND WORDS.

Thank you for three good things,—trust, promptitude, kindness.

M. T. MANTOR.

Viroqua Junction, Monroe Co., Wis., June 3, 1880.

[Thanks, friend M.; but your words hurt more than if you had abused me, because I have not been prompt with you all. I shall appreciate it more than I ever did before, when I get once more where I can send all goods right off promptly. Perhaps it is good for me, even if it is bad for you, for it will make me so afraid of some of you, that I shan't dare get proud and overbearing anymore.]

CYPRIAN QUEENS.

I see it is claimed in GLEANINGS that the Cyprian bees are superior to all others. Why could you not raise dollar, Cyprian queens, untested, the same as Italians, and accommodate your subscribers and customers?

S. W. SWINGLE.

Roseville, Muskingum Co., O., June 9, 1880.

[I will offer them just as soon as I am satisfied that they are better than the Italians, but I want to make a test of them, before I give them even the endorsement of having them in my price list. The one Cyprian queen which we had in our apiary last season was hardly a credit to the race; but I presume she was impurely mated. We sold her at the price of a hybrid.]

I am in Blasted Hopes with my queen nursery, but I won't give up yet. I got 8 queens from 30 queen cells; that's "Blasted Hopes." How can I keep my bees from destroying 6 queen cells in 6 days for me?

Your young friend,—

A. MEDER, JR.

Louisville, Ky., May 31, 1880.

[Your inquiry is rather too indefinite, Friend M., but I think you will find the A B C covers the whole ground of preventing the bees from destroying the queen cells.]

DEAD QUEENS IN FRONT OF THE HIVES.

I keep finding dead queens in front of the hive. They have not swarmed yet. What is the cause of it?

JERRY MOFFITT.

Oxford, Mass., June 8, 1880.

[If you mean, friend M., that you keep finding old, fertile queens dead in front of the hive, I can only say that it seems to be a feature of the late mortalities among the bees, and I do not know of any reason to assign for it. If it is young, newly hatched queens, it is doubtless because they have made preparations for swarming, that have been upset by a sudden cessation in the honey harvest, and they, in consequence, destroyed the cells, throwing out the

young queens, and abandoning, for the present, all swarming preparations.]

I lost one colony last winter, before I got the grape sugar. The combs are full of dead bees. Will they do to put a new swarm on this season without having the dead bees taken from the cells, before hiving the new swarm?

J. P. WATT.

Duck Creek, Ill., May 15, 1880.

[Your combs filled with dead bees, if given to strong stocks, one or two at a time, as directed in A B C, page 285, will be made as good as new. Do not pick out the dead bees at all.]

DRONES AND THEIR PURITY. — A CORRECTION.

Friend Root:—In this month's GLEANINGS, you speak as if drones from a pure Italian queen that has met a black drone are not pure (see p. 281, June No.); else how can you get $\frac{1}{2}$ blood? I want to know, for I have some very handsome queens that have met black drones, and am of the opinion that their drones are pure, and that queens mated with them, if pure, will produce pure workers. Am I wrong?

Paterson, N. J., June 2, '80. LANGLEY CLAXTON.

[I stand corrected; you are right, and I am wrong, friend C., and I thank you for calling my attention to the blunder. I overlooked the fact that, in the case referred to, only the workers were said to be hybrids. My remarks there will answer for a case where the queen's mother was impurely mated. No accurate experiments have ever given us any cause at all to doubt the truthfulness of the statements laid down by Dzierzone and Berlepsche; viz., that the drone progeny is in no way affected by the fertilization of the queen.]

A NEW SWARM RETURNING TO THE OLD HIVE.

I had a swarm of bees yesterday which I put into a new hive, on a new stand. After being quiet about 15 minutes, they all came out and returned to the old hive, although I had given them a frame of brood.

A. G. WILLOWS.

Carlingford, Ontario, Can., June 9, 1880.

[Why, friend W., it seems to me almost unaccountable, that a swarm thus fixed should go back. Did you make sure that the frame contained *unsealed* brood, that the hive did not stand in the sun, and that the entrance was large enough to give an abundance of air? If all these points were attended to, it seems to me that they would hardly desert brood right from any hive, even though they had no queen at all with them; yet I know bees, at times, seem to go right contrary to all rules and regulations laid down.]

LOOK OUT FOR ROBBERING.

I introduced the queen all right, to a rather weak colony. She commenced laying in a few days, but one night we got a frost which stopped honey gathering; my bees got to robbing, and, although I stopped them before they carried off much honey, I found my Italian queen dead outside of the hive. Some of her young bees are out now, and are nice large bees, but I take them to be hybrids.

PHILLIP LONSLLEY.

Moose Ear, Wis., June 5, 1880.

[The death of the queen was undoubtedly caused by the robbing. I scarcely know why it is, but, during a robbing raid, the queen seems to be passed by and forgotten, and they are often found, at such a time, wandering outside of the hive, and sometimes dead as you have described. Look to your bees ear-

ly and late, especially when you have weak colonies, or after a frost.]

DANGER OF STARVING EVEN IN JUNE, ETC.

I examined my bees this afternoon, and found that during the last week they have consumed nearly every ounce of their stores (result of a continuously rainy week). To-day was bright, and I trust they may open up hostilities with the advent of white clover.

When I was a student, Prof. Cook used to "hoot" me with a grave shake of his head, "Ah! Mr. Taylor, you'll never make a bee man; too scarey;" but I begin to think I can "skunk" the Prof. handling them, for he used to get hit by a bee's helm now and then, while I go through with impunity, so far at least.

J. E. TAYLOR.

Otisco, Mich., May 7, 1880.

SWARMING RETARDED BY GIVING THE BEES ROOM IN SECTIONS.

Mr. Root:—Will you please tell me if placing a case of sections on a hive will in any way prevent swarming, or at least as early as otherwise. I wish to have as early swarms as possible. Ought I to place the surplus boxes on before they have the lower part filled?

C. S. BURKE.

Batavia, N. Y., June 12, 1880.

[While giving the bees empty sections, right above the brood nest, will not absolutely prevent swarming, it will, as a general thing, do much to make it less probable that they will swarm; and, if you want swarms instead of honey, you will hasten them greatly, by omitting to give the bees any room in sections, or an upper story. It is rather a wasteful proceeding, however, for many stocks will get their hive full, and remain idly hanging on the front of the hives, before they are ready to swarm, and it would be nothing strange, if they should thus idle the whole season through, and not swarm at all. If you want honey, put on the surplus boxes, just before the lower story is filled.]

ABSCONDING SWARMS.

I had a large first swarm issue on the 10th inst. After having obtained a frame of unsealed brood from the old stand, and placing it in a new hive, I repaired to my clustered swarm. After having hived it successfully, I removed the new colony into my apiary, and gave it proper shade. On the morning of the 12th, my new swarm came out, and, to my astonishment, started for the woods. By this time, I had my smoker in good trim, and my legs were then used pretty freely. After going about $\frac{1}{2}$ mile, they concluded to go to house-keeping in a large ash tree. I cut the tree down, and succeeded in saving only about 3 pts. of bees.

Scarcely had I finished the work, when my Italians commenced swarming and without even waiting to say "thank you" for the favors I had done them, they took a bee line for the woods, but not without company, for I kept pace with them, until they reached their (supposed) place of abode in a tree. This was a large first swarm of Italians, containing a tested queen one year of age. Now you see a frame of unsealed brood did not prevent my first swarm from going to the woods. I would like you to give me some information concerning these two swarms.

E. J. HINSHAW.

Lynn, Randolph Co., Ind., June 15, 1880.

[I do not know but that I am "cornered," friend H., if a frame of brood, shading, and carrying to a new location will not stop them. If we have many

more such reports this season, I shall have to vote in favor of artificial swarming I fear.]

HAMMOCKS FOR BEE-KEEPERS(?).

I would like to suggest that you add Hammocks to your counters. Would they not be splendid to hang under a shady tree, to lie in and read GLEANINGS while watching the bees?

H. L. WEBBER.

Monroe Centre, Me., June 9, 1880.

[The counter store was started with the idea of having it include only useful articles, friend W., and I confess I feel a little doubt in regard to whether Hammocks belong in that list; but perhaps a bee-keeper should rest once in a while, at least long enough to read GLEANINGS. Who can furnish good ones, at a low price, by the hundred?]

TOOL BOXES AND TOOL CHESTS.

Can not you do something in the way of getting up and offering for sale, tool chests and tools for boys? They are offered at the stores, but for the most part the tools are of the poorest quality, and the prices high. One of my boys has been saving money for months to get some tools, and I have told him that Mr. Root loves the boys so well that I think he will do something for them in the way of tools.

U. C. BOSWORTH.

Creston, Iowa, June 1, 1880.

[Thanks, friend B. I have had, for some time, stowed away in a corner of my brain, a tool box, to hold some of the nice little tools that are cheap, and have been proved to be good, but it seems as if I should never get time to see to it. On our 10 cent counter is a very pretty little box, called a knife tray, and our boys have found them very handy to carry nails and small tools in. These, with a few divisions, would be pretty and cheap. To avoid mixing the nails, I would have a nail fastened with staples, on the side of each box, and then any child, (or woman?) could put each nail right in the box made for it, and there need never be any excuse for mixing them. A mixed lot of small nails, the small wire nails for instance, might almost as well be thrown away; for it will cost more than they are worth, ordinarily, to separate them.]

FLORIDA AND PALMETTO HONEY.

I started this year with 14 swarms, and now have 30, and expect more out any minute. Have extracted 300 lbs. of saw-palmetto honey, to give room for brood. It has been the hardest season on bees here so far, for many years; but every thing promises well for a big crop for the rest of the season.

W. S. HART.

New Smyrna, Fla., June 3, 1880.

SIMPSON HONEY PLANTS.

I have at last found out what Simpson's honey plant is. I have plowed under more this spring, I suppose, than you have got on your honey farm. So much for not knowing more. After hoeing mine so well, and taking so much pains with it, you may know how I felt, when I found out what it was. My bees are doing better and better.

GEO. W. STITES.

Spring Station, Ind., June 11, 1880.

[Now, friend S., unless you have seen the blossoms on those weeds, I think you are making a mistake. Our gardener left a large weed near the door a few days ago, saying it was a Simpson plant, but it was only a common weed that looks, to an untrained eye, very much like it. Look again and report.]

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATER.

MEDINA, JULY 1, 1880.

Thou shalt love thy neighbor as thyself.—MATT.
xix. 19.

PAINTING HIVES.

SINCE printing the article on this subject, on page 528, we learn from friend L., that the proportions for mixing paint there given, are wrong. Instead of 4 and 3 gallons of oil, read 5 and 4 gallons.

I EXPECT it will take all summer to get this "ink business" straight. The June *Exchange* says I claim never to have sent any ink by mail. I have never sent 2 oz. bottles of ink, but I do send "little bits of ones" in a block of wood, and, should the bottle be broken, as the wood in any case would soak up every drop of ink, and more too, I think it in strict compliance with the spirit of the law. So also is the water in the tin bottles; and I never meant to imply otherwise. I am very glad indeed that the Peet introducing and shipping cage has proven a success.

CHARITY.

JUST now, it seems to me, the most prevailing sin I know of among us is a want of charity. Why do we, so many of us, persist in saying a thing was done purposely, when it was entirely unintentional. No matter how many times we have found that no wrong was intended, the very next time, we take it for granted that our friend made a mistake in his own favor just because he wanted to put in his own pocket a few cents that belong to us. For variety's sake, if nothing more, let us try how it will work to give a brother more credit for good intentions than he probably deserves.

EDITORS should be servants of the people; at least it seems to me, from the nature of things, they ought. If this is so, then they ought to be very accommodating, especially to the people who send them money. In view of the latter point we have just made arrangements to receive Canada money and Canada postage stamps at par. Although the banks refuse to take it except at from 3 to 5 per cent discount, we have no trouble at all in getting full value by sending it by registered letter to a friend in Canada, who does the business, solely for the sake of accommodating his countrymen.

And whosoever will be chief among you, let him be your servant.—Matt. xx. 27.

WHEN you are ordering odd sized sections, frames, separators, etc., please give the exact dimensions of what you want. Do all the figuring yourself, and do not leave computations for myself or clerks to do. The dimensions of your hives are of no possible use to us at all; if you give them to ask my opinion and advice, I can tell you that before hand. I would burn up the best hive I ever saw or heard of, or give it to the first man who would wheel it away without

asking questions, if it did not hold the regular standard Langstroth frame. If your hive will hold these, it will hold the regular standard goods all the way through; but if it will not, the quicker you throw it away and commence in the beaten track with the rest of the world, the better.

SOMETIMES our friends say, "The colony will die, if I do not get that queen right away," and, if I recollect aright, one or two have complained that their colonies did die because those who advertised queens did not send them. Of course, queens should be sent promptly, and I would not, for a moment, try to excuse these vexatious delays; but, my friends, you certainly make a grave mistake when you leave a colony in such a shape that it must stand still and die, if the queen does not come just as you want her. Give them some brood or eggs, and let them be at work, and then, when the queen does come, they will be right in the line of business, and in very much better trim to receive a queen than if left to suffer and, possibly, have a fertile worker in her stead. If you have a queenless colony, give them a comb with eggs in, at least once a week, or you are hardly fit to be a bee-keeper.

OH humanity, humanity, why will you be so careless! It is said the world now moves in waves; first it surges in one direction, and then in another. The latest "surge" in business seems to be a propensity to say that a part of the goods ordered were not in the package; but some of our clerks have become so keen and sharp on that point, of late, probably because of sore experience, that they are generally able to say whether the goods were in or not, and when they are sure the articles were put in, we write back to look more carefully. To my surprise, at least, quite a number of replies show the clerks to be right. Here is one:

A. I. ROOT:—I found the block several days since, and this morning found you were at the bottom of the last box in Johnstown, Ohio, June 5, 1880. J. M. Brown.

I do not mean to complain, my friends, but I want you to be mild when saying goods were omitted. I presume you, like ourselves, are crowded and hurried, but let us all take time enough to have "lots" of charity, one for another, and to be slow in censuring each other too severely.

OUR advertising clerk, as a general thing, is very reliable; in fact, it is so long since she has made a mistake, I hardly took the trouble to review her work as I do some of the rest, but in our June No., it seems that things got bungled badly, somehow. Some advertisements were put in that were not wanted, and, worse s'ill, two or three were left out that were wanted, and I do not know really whom to scold, for all that were in any way connected with it show very good reasons why they were not at all to blame. I guess it must be myself, and I am not only very sorry, but I will pay damages on receipt of bill, if our friends will "think gently of the erring." Our friends Scovell & Anderson were one of the parties who were used so badly, and our old stand by, Hayhurst, was another. I do not know but friend H. thought I did it out of spite, for if there is any one man who can beat us in putting up and shipping a queen and a pound of bees, it is friend H. himself. Look at his advertisement, and then try him. Friend Parker also, who invented the beautiful machine for putting in starters, had his advertisement left out of May No. by mistake.

Our Homes.

For, brethren, ye have been called unto liberty: only use not liberty for an occasion to the flesh, but by love serve one another.—Galatians, v. 13.

WHILE friend Faris was with us a few days ago, we (being "Yankees" you know) questioned him considerably about his southern home. At the breakfast table, some one suggested that he was from a state where they formerly kept slaves.—He assented.

"Did you ever keep slaves, Mr. Faris?"

"No; I was too poor a man then to be able to own a slave."

"How much money did it take?" asked one of the children.

"Oh, it depended a good deal on how old they were, etc. Perhaps all the way from \$100.00 to \$1,000.00. Children sold for very small amounts, sometimes."

"Why, did they sell children?"

"Most certainly."

"What, and take them right away from their mothers and fathers?"

"To be sure."

"Did you ever see this done, Mr. Faris?"

"Why, yes; many and many a time."

"But did you stand by, and do nothing? Did not the mothers shriek and wring their hands? Was husband sold from wife, and carried away where she had not power to follow, and family ties thus severed in a moment, forever?"

"Yes; I have seen it all. When traders came along, these things were common. In fact, they thought as little about it as do we in selling any kind of stock."

"Was this really in our own country?" said one. "How long ago was it that such things were done?"

"Only 20 years. Does it really seem possible that only 20 years ago, in this land of liberty, men bought and sold their fellow men?"

Does it not seem almost a mistake when we look back and think of it? In heathen lands, it is common for prisoners of war to be held as slaves, but surely no such thing could have been the custom in this enlightened land only 20 years ago? I mentioned the matter at our noon-day service, and asked how many of us would stand by and see a child taken from its mother, and carried away by main force, to a life perhaps far worse than death. It seems to me, if no redress could be obtained by law, I would fight like a tiger for the helpless and unprotected. Mr. Gray remarked that there were those who did fight, and lost their lives, without doing any good seemingly. Somebody suggested that there was one "John Brown," who decided to fight, even though against the most fearful odds, and, if the legend is truthful, as a reward of so doing, his "body lies moldering in the grave" with others who gave their bodies to the cause in a like manner. Is not the world slowly changing? Last month I told you of that spirit that bid me beware of telling my fellow men what they must, or must not do. The spirit of Christ constantly enjoins,—

Not by might, nor by power, but by my Spirit, saith the Lord of Hosts.

Is not the day passing by, when it is found necessary to say "must," in our intercourse with any of those about us, who are generally recognized as law abiding citizens? and the time coming when we can literally obey this little text:

Give to every man that asketh of thee; and of him that taketh away thy goods, ask them not again.—LUKE vi. 30.

You remember about Charlie Ross,—how a whole nation was up and on the alert, just because one household had been robbed of their little boy. If a little child was in danger of being burned to death in the upper story of some great building, and it was generally known to a great mass of our people that money would save its life, how much would be subscribed? What do our people consider a human life worth, and how much will America pay to save a human life? At the time of our Chicago fire, why did the whole nation pour out money, clothes, and food, until there was more than could be taken care of, and that, too, to those who were no more closely related than by the ties of common humanity, and to people they never before heard of? During the reign of the yellow fever, why did so many give away their lives, just for the mere hope of being able to save the lives of a few unknown fellow beings. Is there not an element in humanity of something Christ like?

Mr. Faris said, if I had lived among the slave holders as he had, and seen all sides of the question, he thought very likely I would have let it pass and said or done nothing as did the rest. A friend remarked after the noon service, that there are many colored people in the South who say now they would rather be with their old masters, than to have their present places, if they could be guaranteed against being bought and sold, in case of the death of their owners, or like contingences. When they fell into the hands of wicked, cruel people, of course, it gave those people an unusual power to inflict pain and suffering. Let us exercise all the charity we can for what is passed and gone, but it may be well to consider the point in its moral bearings, at the same time.

Reader, you have a bright little one in your own home. You that have lost one such by death can well imagine the feelings you would be called upon to endure, were some strong man to come in, vested with the power of law to back him, and tear this little one away, regardless of all your pleadings and prayers for mercy. Suppose a wife or husband were snatched from you in the same way, and handed over to any fiend in human shape, who might have the requisite one thousand, or two thousand dollars. I believe it was generally conceded that a slave holder could do whatever he pleased with his chattel. Would you stand by and tamely bear to have a brutal man lay hands on your wife and child? or would you fight until you had drawn your last breath, and shed your last drop of blood for those loved ones? You are crazed at the thought. Suppose it was your neighbor's home that was invaded. Would you not help to raise an armed force of all the men in your vicinity, to resist to the last, any attempt to carry off

to slavery his little ones that he loves, as you do yours, more than life? To be sure you would fight; if you would not, you do not deserve life and a free country. Think of having your boy or your girl sold as a *slave*, to be lorded over by you know not whom, to have their little lives ground out of them, and every spark of manhood or womanhood killed out, in its very incipency, and to be told that there was no remedy; it was one of the inexorable combinations of circumstances, and the only way was to put up with it. What would you do?

Do you say these things are passed and gone? and do you wonder why I have gone away back, and raked up old and forgotten memories, years after these things have ceased to exist? Do you say let us consider the present and the future, and let by-gones be by-gones? Very well, let us see to the future then. The following I found on a scrap of paper, that I picked up accidentally:

Three saloon-keepers in Chicago were found guilty of selling liquor to minors, and the following is the address of the Judge who sentenced them, as reported in the *Chicago Tribune*:

"By the law you may sell to men and women, if they will buy. You have given your bond and paid your license to sell to them, and no one has a right to molest you in your legal business. No matter what the consequences may be, no matter what poverty and destitution are produced by your selling according to law, you have paid your money for this privilege, and you are licensed to pursue your calling. No matter what families are distracted and rendered miserable, no matter what wives are treated with violence, what children starve or mourn over the degradation of a parent, your business is legalized, and no one may interfere with you in it. No matter what mother may agonize over the loss of a son, or sister blush for the shame of a brother, you have a right to disregard them all and pursue your legal calling; you are licensed. You may fit up your lawful place of business in the most enticing and captivating form; you may furnish it with the most costly and elegant equipments for your lawful trade; you may fill it with the allurements to amusement; you may use all your arts to induce visitors; you may skillfully arrange and expose to view your choicest wines and captivating beverages; you may then induce thirst by all contrivances to produce a raging appetite for drink, and then you may supply that appetite to the full, because it is lawful; you have paid for it; you have a license.

You may allow boys, almost children, to frequent your saloon; they may witness the apparent satisfaction with which their seniors quaff the sparkling glass; you may be schooling and training them for the period of twenty-one, when they, too, can participate, for all this is lawful. You may hold the cup to their very lips, but you must not let them drink—that is unlawful. But while you have all these privileges for the money you pay, this poor privilege of selling to children is denied you. Here parents have the right to say, "Leave my son to me until the law gives you the right to destroy him. Do not anticipate that terrible moment when I can assert for him no further right of protection; that will be soon enough for me, for his mother, for his sister, for his friends, and for the community to see him take his road to death. Give him to us in his

childhood, at least. Let us have a few years of his youth, in which we may enjoy his innocence to repay us in some small degree for the care and love we have lavished upon him." This is something you, who now stand a prisoner at the bar, have not paid for; this is not embraced in your license.

For this offense the Court sentences you to ten days' imprisonment in the county jail, and that you pay a fine of seventy-five dollars and costs; and that you stand committed until the fine and costs of this prosecution are paid."

A few days ago, as I was passing along the streets of our town, I was startled by hearing a perfect volley of oaths, curses, blasphemy, and obscenity. In fact, the language was so foul that passers-by turned out and crossed over involuntarily to the other side of the street. I went up to him, and found that it was one of our Medina boys, in a state of beastly intoxication. He could not stand up, but lay partly against the fence. My first impulse was to have him arrested at once, as a public nuisance; but a second thought admonished me that I had not yet tried the power of kind words, and after learning his name I left him, for I have learned that it is generally words wasted, to attempt to talk to a drunken person. After he got sober, I had a talk with him. His drunken spree had been on the very day he was 21. He had been a frequenter of saloons, and had seen others hand over their money and drink, but he had been refused because he was not of age. The very day he became of age, his first work was to go and ask for whisky, and drink. He was simply celebrating his liberty. Was it liberty that he was enjoying as he lay there on the side walk? If he was a slave, whose slave was he, judging from his language? Why does a man or boy who is under the influence of liquor invariably take God's name in vain? Why does their demoniac hatred seem to vent itself almost entirely against the Bible?

A few years ago, during a temperance revival, many of our townsmen were reformed, and just in proportion as they dropped their intemperate habits they turned to the study of the Bible. One of them reformed and gave temperance lectures in different parts of our county, but, as he had not yet embraced religion, he asked me to go with him, and open the evening exercises with Bible reading and prayer. The man had been a skeptic; but, during these evening rides, I had much talk with him, and considerable on the subject of prayer. He said he felt like thanking God, especially when he got up in the morning; and, since his life had changed for a better one, he many times felt like thanking God, with real honesty and sincerity. I felt that he was on the threshold of a new life, and was deeply anxious that this spirit might prevail, and that he might put on the whole armor of a soldier of the cross. His reform proved only transitory. I remonstrated with him in regard to it, and he admitted that he had "backslid, just as you Christians do sometimes," and promised to do better; but, without God's help, it could not well be lasting. A few days ago I passed a little group of men

and boys, and my attention was called by hearing some one earnestly condemning the Bible. I passed by hastily, and tried not to hear the words, but I caught enough to know that they referred to a vision of difficult interpretation. The statements were presented so that a most disgusting story was made, and the narrator then declared that this was just what the Bible taught, and church people held up, as the law of God. The listeners, some of whom were boys, drank in the statement with open mouths, and I fear decided in their own minds that the saloon adjoining was a safer place to go to, than the church a little beyond. This teaching was from the same man who used to be so active in the temperance work. Why did he take so much pains, as he sat idly there, to prejudice minds which probably looked up to him as authority (for he was a well read man) against the Bible. His statement had almost a Satanic ingenuity about it, I thought, as I went over the ground afterward. When one knows he is selling himself to Satan, why must he take up a tirade against the Bible?

Would it be safe to say, when you hear a man declaiming against the Bible and Christian people, that it is because he has some secret sin, cherished and kept from the sight of men, and that it is Satan, his master, who is speaking through him? Suppose it should get to be the current impression among people, that he who loudly parades his skepticism has a guilty conscience that impels this stream of evil and bitterness.

The utterances of the boy on the street were, without question, those of one possessed by the Evil One, and one is forcibly reminded of the way in which devils took possession of people in olden time.

And, behold, they cried out, saying, What have we to do with thee, Jesus, thou Son of God? art thou come hither to torment us before the time?

—Matt. viii. 29.

The saloon keeper but a few doors from the spot is one whom I have met in jail, and, of all the utterly hopeless, bitter, hard, unfeeling, specimens of humanity I have met, this man was one of the worst. Imagine him standing behind his bar, after this deed. The slave dealers down south used to rob mothers of their sons, it is true; but they only carried off and sold the body, while the boy might be a good Christian boy, in spite of anything they could do. This man, nightly robs the mother of her son, and sends his soul to perdition; does it, too, all for a few cents. We thought awhile ago, that we would never stand by, and see such scenes enacted. Reader, are you not this minute standing by, and seeing just such scenes enacted, as I have just pictured? You think our people should revolt, and declare they would not live in a community where one man holds another in bondage? Good; give me your hand; let the world know there are just two, if no more, that will not stand by tamely, and see our fellows wronged in this way. If the world is too much for us, and we are crowded down out of sight, let us die in a good cause, as did our fathers before us.

For whosoever will save his life shall lose it; and whosoever will lose his life for my sake shall find it.

—Matt. xvi. 25.

But what shall we do, Mr. Root? What did *you* do with that boy? Why, I had a talk with him, after he was sober, and now he goes to our young men's prayer meeting and attends Sabbath School regularly. That is the way I would let the world know I would not have such work. Do you not remember, "Not by might," &c.?

By the way, have I ever told you they have made me superintendent of the Sabbath School? About 300 children, and 25 teachers, the secretary told me we had enrolled last sabbath, and to think that in a few short years (since I commenced serving my Savior and writing these Home Papers here to you), this should all have come about, to be sure, seems preposterous.—The idea of putting all this responsibility into the hands of one who is but a child in christian work! but so it has come about, in some queer way, and I presume I should try to think the Lord has done it, and so do the best I can. If our people ever think I am not just the right one for the place, I am ready to step down and out, with just as pleasant a smile, as I stepped up. I suppose it came about something in this way: you know I had a class of boys, to whom I could not do any good, or at least I thought I couldn't. In answer to prayer, I was directed to go and visit them at their own homes, and it resulted in the weekly meetings with them, as I have told you. By the way, those have been dropped, temporarily, just because of the time it would take from the filling of your orders. Well, after I had got such a hold on the boys that they would listen to me in almost anything, in some way it got into the minds of the people that I could control a great many boys, and so they gave me the whole school. Do you not see?

Thou hast been faithful over a few things, I will make thee ruler over many things.

And,—

And whosoever will be chief among you, let him be your servant:—Matt. xx. 27.

Suppose I had got discouraged and given up, and said I could not do any thing with a lot of boys who would be so "cantankerous," and would not listen to a word I had to say.

Fear not, little flock; for it is your Father's good pleasure to give you the Kingdom.—Luke, xii. 32.

Let not your heart be troubled, neither let it be afraid.—St. John, xiv. 27.

Several of those boys are now at work with us here, and more respectful, industrious, and better behaved boys one could not well ask for.

Did you never notice what a cordial and friendly way many of the German people have, compared with the cold business habits of most of the Americans? Even the letters from our German bee-friends seem full of this kind of brotherly love, and make one's heart involuntarily warm toward these brothers across the water. Some years ago, a pretty, black eyed, German girl came into my place of business, and, after a pleasant salutation, told me that her name was Caroline S., and that her brother was a jeweler too; and, after some little purchase, went away with a pleasant "Good day," that made one feel like parting from a friend. She came in often afterwards, and, by her pleas-

ant, cheerful smile and ways, made us all feel a warm friendship for her. One day, in making a purchase, she seemed a little embarrassed and finally suggested, half inquiringly, that she would pay for it "some other day," intimating that she had unexpectedly run short of funds. I felt only too glad to accommodate her, and after that she often left little accounts unsettled for several days or weeks. The book-keeper one day remarked that her account had run longer than usual, and asked if Caroline should be dunned. "By no means," I replied, for I felt that Caroline was the very soul of honor, and that all would surely be all right without any reminder; and so it proved.

Time passed, and she one day came in with a fine looking man who spoke English quite brokenly, whom she introduced, with a most becoming color on her fresh rosy face, as her husband. How happy they two always seemed when they came in together, and how plainly one could notice that each one was bent on making the other happy. Still later, a new baby was brought along, and as he grew older, little trinkets were selected for him from the contents of our counters. As he got able to walk alone, he became a favorite every where, for the reason that he inherited his mother's bright eye, and her peculiar, frank, friendly smile, if for no other reason, and I often watched the bright curly haired boy, as he looked at the different things in the store with a childish fancy and delight. Happy, innocent, joyous childhood! O that angels might guard you and preserve that innocence, all along through this, so often, thorny path of life!

Shut your eyes, dear reader, and when you open them again, imagine a dozen years to have passed. It was the close of a warm day a year ago, that a boy came to me asking me to come and see a young man whom he had found lying across the railroad track, in the cut above, in a state of insensibility from the effects of drink. There had been a political speech that day, and the town had been full of people. I found him scarcely able to stand, but pretending to be very busily engaged in writing in a book, although it was too dark to see a single letter. I spoke to him, but he would not answer. I tried all the plans I knew of, to get him to tell me who he was, and where he belonged. He dropped his papers, and I gathered them up, as he could not, but only got curses for my pains.

As he had evidently been going up the track, I took him by the arm, and got him to walk along, hoping the air and the walk would somewhat revive him. He soon began to show that he knew me, for he began swearing about my Abbeyville Sabbath school; and finally from the words he quoted I knew he had been with us, and had heard my talks to the boys. Satan, speaking through him, seemed angered and in a rage, that I should interfere at all. We came to a cattle guard, and when I wished to assist him across he declared he could get along better without any help; being allowed to have his own way, he tried foolishly to run across the sharp edged sticks, with-

out any care or regard as to where he placed his feet. He soon went down through, with a crash that seemed as if bones must be broken. As I lifted him out with expressions of pity, he only laughed, and declared that nothing can hurt a man when he is "full."

"But you will know to-morrow, that you have been hurt?"

"Yes," he said hesitatingly.

"What were you doing when lying across the track?"

"If you had let me alone I should never have seen 'to-morrow.'"

"Do you mean that you lay down there purposely, that the train might run over you?"

"Yes, sir; and it is the very best thing I can do as you yourself will admit. I have listened to your talk in the Sunday school, and I have wanted to be a good boy and stop drinking, but I have sworn off so many times, when it did no good that I made up my mind I would make a sure thing of it this time."

"You would make a sure thing of not drinking any more, but how about that life beyond?"

"I should go right to Heaven, for trying to do right. God wants me to stop drinking, and breaking my mother's heart, and this is the only way I can stop." Do you see what subtle crafty reasoning Satan employs with the slave in his toils?

"My friend, did you ever see a man who had the delirium tremens?"

"Yes."

"If you lie on this track to-night, and are killed, you will go straight to the abode of demons such as that man saw, and you will be tormented with them forever and forever. The Devil has now got you in his hands, and it is he who is persuading you to lie down here, that you may be ever more his, and lost to God and all that is good in this great universe." I talked with him until he began to cry, and finally, in anguish, he began to say,

"O? what shall I do? what shall I do? I thought this morning I should never get drunk again, but the boys came around me, and said they must have me to make fun for them, and called me "Schumocher,""

"What did you say? Is your name——?"

"It is."

O God, look down in pity and help. Help, we pray thee, this poor misguided youth to realize that there is indeed a God and a Savior above. Help thy servant to show him, and make him realize, even while his poor mind is clouded and blinded with the effects of sin, that there is pardon, and freedom too, for this galling bondage which has been thrown thus early about his young life. Thou who didst create this bright moon above us, these green fields, and this bright broad land of liberty, once more, O Lord, as thou hast in times past, grant us thy aid.

I took him on his way home far enough from the track that seemed to have such a fatal charm for him, so that I thought he would not get back. You need not say he was in no danger of being run over and mutilated by the cars; for, from the daily papers,

you will see that such cases are comparatively common. This boy had perhaps had his enthusiasm fired that day by a political speech, in regard to this land of liberty of ours, but, my friends, can you imagine a more galling form of bondage than the one that came so near robbing this young mother of her darling boy. With his German lineage, doubtless, came his love of beer, and familiarity with the time honored customs of his countrymen. The slave driver sold a man's body for a thousand dollars; the saloon-keeper sold this boy's soul to Satan, for a few cents. Shall it be, my friends? Will you stand by idly, and see this mother, but a short time ago the bright, hopeful, innocent young girl, robbed of her beautiful boy who promised so much? Shall we see the saloon-keeper take advantage of the fact that the boy has lost his father, and has therefore no one to look after him as other boys have? He told me on the way home that he was present when I talked with Simon, of whom I told you some time back, and that it was his companion and friend who offered the glass to Simon right before me, when he was pleading with his companions not to urge him to drink more.

Will you, my friend, stand by idly and see these things done? Are you ready to fight? Shall I tell you what to do? Get that barrel of cider out of your cellar; stop the hired men or anybody else from drinking it; and for the sake of stopping the force of the example, if for nothing else, pour out every drop of it on the ground, if you cannot otherwise stop its being used as a beverage. Never let a boy or anybody else see you enter a saloon, under any circumstances whatever. Start out to Sunday school every Sabbath morning, and if you haven't the courage to ask the boys to come along with you, at least, give them the benefit of your example, and let it be understood that you always go. If the school is five miles away, go the five miles, or do better still, and start one nearer home. Your influence and example,—the influence and example of every one of you whose eyes are on this page, is acting powerfully one way or another. It makes little difference whether you are entertained there or not; you are not to go to be entertained; go for the good of others, and trust God to take care of the rest. If you are unacquainted, carry this page to the superintendent and tell him you have come in accordance with this call which God has given you, through your humble servant of these Home Papers. Do not let Satan discourage you; go anyway, even though he says it is too hot or too cold, or that some of the folks there are hypocrites,—and such like stuff. Tell him old birds cannot "be fooled with chaff," and push on your way. If you don't believe in Sabbath schools, go anyway; and make up your mind you are going to try one day in the week to "love your neighbor as yourself" without any regard to what or how others do. Rouse up; stir yourself; for Christ's sake, my friend, do something toward rescuing the young men of our nation from this other bondage, and this galling slavery. Teach them what it is to be free men, in the sense that God intended it. The

worst enemy you have in this world is not one of your fellow men, but it is Satan in your own heart, telling you to sit still and not go, and helping you to fabricate excuses. Rouse up; shake yourself; stir; and come and join this army, that moves with such mighty power, and yet does all its work by kindness and love.

The following from friend W. O. may be of interest to many:

I see in the last No. that our unbelieving friend says that perhaps the man who furnished \$800.00 had read GLEANINGS. I can assure him that he had not only not read GLEANINGS, but two or three months before had positively refused to render me any help. I can but say, surely God's hand was in it.

WM. OLDROYD.

Columbus, O., June 14, 1880.

The "Growlery."

[This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule we will omit names and addresses, to avoid being too personal.]

Charity suffereth long, and is kind.—I. Cor. xiii. 4.

I TOLD you last month, my friends, that I expected good to come from this department. With the great mass of business of the last month, have come, of course, a great many trials and annoyances, and, while I take them up, please do not lose sight of the fact that I do it not for idle sport, nor in a complaining way, but that we may study the cause of hard thoughts and hard words, as we would study the symptoms of a disease, and with the sole purpose of healing instead of making worse.

One of our young men caught his hand in a buzz saw yesterday, and mangled it horribly. Several of the hands were so affected they could not work, and it was a little difficult at first to find one who could give the poor fellow proper care. Do you see how necessary it is that we school ourselves so as to be able to look upon these things coolly, if we expect to be able to give help in the time of need? Well, if some of the letters I shall give seem at first a little revolting, let us take a cool view of them, more in pity than censure, and see if we cannot all do something for the pain and suffering there is on both sides. Shall we not also breathe a prayer to the great Being above, to help us to be strong and brave to bear harshness and unkindness, and to give us that charity spoken of in our text above.

As the queen business seems rather more productive of quarrels than anything else, we will take that up first.

Dear Friend Novice:—You have made a very good growl in the Growlery of last No. of GLEANINGS. Well, you are not to have it all to yourself. I want to growl a little too. Early in May, I wrote to — making inquiry if they could supply me with a tested queen. The following is their answer:

Your postal card at hand. Yes; we can send queen on or before the 20th inst. Price ————— (Signed) —————
May 8, 1880.

I forwarded the money at once. Their next reply came to hand in 18 days, and reads as follows:

Your order for queen at hand. Have noted instructions. Will do our best for you. Will ship Monday 31st.
—, May 26, 1880.

From the foregoing any person would expect the queen in a few days; but notice the next postal;

We ship your queen by this day's mail, and trust she may do as well for you as she has done here. If so you will be well pleased.

—, June 9, 1880.

As I write this, on June 17th, no queen is at hand, and there are no more falsehoods on postals from friend —.

What do you think of them? I have concluded that they are chief of humbugs. They obtain money under false pretenses, and solely by putting on such a fine show of outward clothing in your advertising columns. But, by the by, you say that you hold yourself responsible for all who advertise in your paper. Will you make this loss good? I made a hive queenless to receive queen, and it is queenless yet. I have walked to the post office, a mile distant, for 20 days, in all 40 miles. It is to me a great loss, to quit work in the middle of the day, when work is in its busiest form, and to be deceived in this manner is not pleasant at all. I will suggest to you a plan which would save us apiarians from such sharks as I have shown you in the foregoing, and I find that a good many supply dealers have the same habit. My plan would be for you and all the publishers of bee papers to exact a deposit of \$500.00 from each of those who advertise in your papers, to be applied by you when such advertisers fail to fulfill their engagements. We have nothing to depend on but the respectability of the paper they advertise in, and in this we are deceived 19 times out of 20.

To yourself, Mr. Novice, I would say the dollar queen you sent me last fall was of no use whatever. With all the feeding and coaxing, she never laid an egg, and passed away quietly, and her remains were consigned to mother earth before winter. So that cures me on the dollar queen business, although she cost me \$4.50, with express charges, duty, &c. The tested queen I got from you last July is undoubtedly the most prolific queen on this continent. I have not seen any thing equal to her. Her hive is always full of brood and bees. I have drawn largely on her for eggs for queen rearing, but it matters not to her.

Truly Yours,— R. L. MEAD.

Nassagaweya, Ont., Can., June 17, 1880.

As I am somewhat at least an interested party in the above, I will try very hard to take a fair, impartial view of the matter. If our friend made you promises he did not keep he certainly owes you an apology, if nothing more; but, in any case, are you not certainly in want of the spirit of our little text above, when you call him a humbug, and accuse him of falsehood. Even if I did not know him to be honest and upright, I should never think of using such terms from the statement you have given. In the queen advertisement, in every number of GLEANINGS, it is stated that we agree to return the money, whenever our customers are impatient of such delays as are unavoidable. If your queen did not come when you wanted her, you should have asked for your money back, and this should have closed the matter pleasantly, on both sides. If the queen had been sent, as I am sure it was in this case, it would be rather hard on your friend who sent her, to ask for the money back

after he had lost one. I think I should, out of courtesy, if nothing more, inform him that she was never received, and let him send another. Queens by mail, to Canada, are rather risky, for some postmaster may imagine that duties should be paid, or something of that sort, and hold them until they are all dead. I have had some bitter experience of that kind, but, of late, the matter seems to be getting righted, and it is a very great saving to our Canada friends. It seems rather hard, as you present it, to be obliged to go to the post office *twenty* times; but, friend M., folks who live only a mile from the post office generally get mail about once a day anyway, do they not? I will pay for the queen cheerfully, if our advertiser does not; but, I cannot for a moment think it my duty to pay for your colony, and the 40 miles travel. This comes on the same ground of holding seed dealers responsible for the crop, if the seeds do not grow. Every seed dealer in the U. S. has given notice that they will not be held responsible in such a way, and, I think, justly. I would by no means take a queen from a hive, before the new one comes; neither would I ever think of letting a colony perish because a queen did not come that I expected. If I were to put the matter to vote, I am sure, friend M., a large majority of your fellow bee-men would say you were at least at fault in this respect. Suppose you try rearing queens and sending them by mail a while, friend M. Shall we not try a little harder to look at both sides? I know you have not been used entirely right; our friend is perhaps dilatory and may be careless, but I know he is not dishonest. Exacting a "deposit," would be "by might, and by power;" don't you see?

Are you not given to extremes, friend M.? You speak extravagantly of the tested queen I sold you, but because the dollar queen did not lay, you plunged headlong into the conclusion that all dollar queens were imperfect. A man once declared that he would never go to meeting again, because his neighbor was sun struck while on the meeting house steps. Queens of all kinds are liable to be found deprived of their powers of laying, after a long trip. Suppose those to whom I send them should declare they were unfertile, and never did lay; or suppose I should say, as they were excellent layers in our own apiary, I did not believe your statements, and that you were trying to get another queen for nothing; do you see how much charity we need?

This next complaint falls entirely on my shoulders.

Mr. Root:— The selected queen you sent me is nothing else than a poor hybrid. I reared 5 or 6 queens from her, and I ought to kill them. I killed some of my hybrid queens, and reared some hybrids or blacks from yours. I had a dream last night, and I saw Hell, where you are going, was plumb full of such honest men as you are. JOHN KRESS.

New Hampton, Iowa, June 18, 1880.

On turning to our queen books, we find the one in question was sent from neighbor H.'s apiary. He has a number of fine imported queens, furnished by us, to rear from, and has not a hybrid or black queen in his apiary. I can but think our friend is mis-

taken, and that he has a good, pure queen, possibly dark, like most of the imported stock. You remember, on page 264 of the last No., the man who called his queen a hybrid and received two, and now admits that both were pure, and pays for them. Friend K., has it not occurred to you that it would be a very foolish thing for me to send out a hybrid for a selected tested queen? Is it likely I should ever build up a business requiring a hundred hands, if I did things that way? If it were really as you state, would it not be far more probable that it was a mistake, than that it was intentional? Would it not have been better to have had a little more charity than to have rushed to the conclusion that I am dishonest? Men who use the language you do, even in telling a dream, are, as a general thing, hardly the ones who are most honest and upright in their deal. I do not know you, of course, but I fear you have at least been in bad company. Should I comply with the demands of every one who swore at me, or used bad language, it might be noised about, that I could be scared by threats, oaths, and abuse, and I should then encourage just what I seek to abate. I fear God, but not man. Write a civil letter, stating that the worker bees from the queen you purchased are not 3 banded according to the tests given in the A B C., and I will send you another queen. Bear in mind that the color of the young queens reared is no test of purity. We have a coal black queen in our apiary, producing very pretty 3 banded workers. Of course, she is a daughter of an imported mother.

Some of you lay great stress on obeying orders. Here is a very plain order.

A. I. Root:—Enclosed please find \$10.00, for which you will send me as many of your Langstroth, movable frame hives for bees as the amount will pay for. I want the hives here as soon as I can get them by express; and please remember that I want them complete; that is, all the pieces, and I will put them up myself. I will rely on you and hope that you will secure as low rates of express as can be had.

H. H. BROOKS.

Belmont, Texas, March 23, 1880.

After carefully reading the letter, I decided that friend B. was a man of business, and knew what he was doing, and so I directed the clerks to send by express as he twice plainly ordered. A notice came soon that he refused to pay the charges, which were \$28.75. I told you a while ago, that we had an especial arrangement with all the express Co.'s, whereby any thing with our card on it would go straight through, no matter what the value, or what the charges, but the conditions under which we secured this unusual immunity from delays of any kind was, that we *guarantee all charges*. Here is a letter from friend B., in regard to the matter.

Dear Sir:—I am in receipt of your postal card of the 29th, and, in reply, I would say that I am sorry that I was not able to pay the express charges on the bee gums in question. I am willing to pay \$10.00 and take the gums; that would make them cost me \$1.00 more than I can buy them for here. I will tell you how I came to order gums from you. It was through your friend, O. R. Flournoy; he told

me that he bought his gums of you, and that I could buy them at 50c a piece, and the charges for transportation would be about 50c, making the total cost \$1.00. In this country, we have always been doing business in the way of freighting on wagons. The express business is new here, and from what Mr. Flournoy told me I supposed you had some way of sending gums to customers that they could stand. If I had known any thing about such charges I could not have thought of ordering them. You will know that I could not pay 5 or 6 dollars for gums. In closing, I will say again, that \$10.00 more is as much as I can pay on the gums. If this will do, let me know by return mail.

H. H. BROOKS.

Belmont, Texas, June 4, 1880.

You see I am out \$18.75, just for obeying orders. Is it right that I should suffer for doing exactly as I was bid, and for a mistake that was entirely his? Should I have written before sending the goods? He says plainly he wants them as soon as he can possibly get them by express, and I have been severely blamed for not sending goods along instead of asking if the writer really *knew* what he wanted. In real trouble and distress, my friends, I ask you what I shall do with such cases, for there are a great many of them. When you thoughtlessly refuse to receive goods because the express charges are more than you expected, please bear in mind that it all falls on my shoulders. You have no moral right to refuse to take goods you have ordered, for you can always go to your express agent and find out beforehand what the charges will be. If you make a blunder through ignorance, is it right to blame the innocent express Co.'s, or let them lose? It is this very work that has made them so prone to stop goods when carried about so far, and send back for the charges before they go any farther; can you blame them? It is now the season for sowing buckwheat, and our girls are sending off pecks and half bushels all the time, but I shall have to give up trying to sell it at a close profit, if so many of you keep refusing to receive the packages because the express charges are more than the buckwheat cost. I do not like to delay your orders this nice growing weather, but what can I do to have you remember that "Charity suffereth long, and is kind?"

DOLLAR queens are now \$1.00 again. We have them put up ready to ship on our table all the time, and, if you want to see how promptly we can send queens, just send us a dollar and see. In regard to buying queens, I shall pay \$60.00 per hundred for them, when I need more than our neighbors can supply. You must not send me any until I give you permission, for I do not like to have them on my hands more than 24 or 48 hours at a time, if I can help it. You will see on another page, that our new cages go now even to California safely by mail.

I AM always willing to have you return any thing in the line of regular goods which you do not want, but those who, from thoughtlessness, or because they are vexed, send heavy packages back by *express*, before notifying us,—do a most unkind thing, to say the least. To illustrate: One friend ordered 500 sections without saying a word as to whether he wanted the new or old style. Our orders are now, very rarely for the old style at all. As soon as he got them, he wrote a very unkind letter, saying he wanted the old style, sent them back by *express*, and demanded his money back. I have not as yet sent back his money, or accepted the box from the express office. What *ought* I to do, in such a case?

CONVENTIONS.

We have received notice, signed by C. M. Bean, Secretary, that the next meeting of the "Cortland Union Bee-Keepers' Association" has been changed from July 27th, to Aug. 10th.

OUR yucca, or Spanish bayonet, is in bloom, and a most beautiful flower it is, but it does not bear teacupfuls of honey, nor yet a spoonful; in fact, there is not, as yet, a "speck" of honey about it. Next month, I shall have something to tell you of how the yuccas grow in California.

SEVERAL kind friends have expressed an anxiety to know about my affairs peculiarly. At one time, in June, I had very nearly money enough in the bank, to pay all I owe in the world, and contemplated so doing, but when I found I should thus stop the interest on many small sums entrusted to me by my hands and others, I felt that it was not God's will I should be entirely out of debt; in fact, it would have been a selfish move on my part. Our bank pays no interest at all, and there are no savings banks near here. A savings bank is, without question in my mind, a moral institution; and so long as God enables me to find safe ways of using money, I will try to pay any of you who wish it, a moderate interest on any you may leave in my hands.

THERE are times when I cannot avoid giving pain, and cannot, in any way that I can see, avoid giving offense. I strongly recommended friend Given's press, without seeing it, but, to be more sure it was something that would be practically useful, and would not disappoint you, I invested the \$40.00 for one. I also invested \$143.00 in the Faris machine; and I am ready to invest more, in anything that will in any probability help you. I have tried to do as I would you should do by me, in making my reports, but friend Given will have it that I object to his machine because it will damage the sale of our rolls. I knew all the time that it would be a damage to the rolls, but I do not believe I let it bias my judgement any. Here is a card from him:

As you have condemned my press and spoiled over 15 or 20 sales, of course you will not expect me to advertise in GLEANINGS; therefore please send me the amount that is to my credit. Hoopston, Ill., June 17, 1880. D. S. GIVEN.

Friend G., when you will improve your press so that it will do good work without expensive adjusting, and *half as rapidly* as you claim in your circular, I shall be most happy to give it a good advertisement free of charge. Mr. Given has been a particular friend of mine, but shall my decision be changed on that account?

THE PAST MONTH.

My friends, your orders are all filled, if I am correct, or at least up to within a few days. It has taken several thousand hives to do it, and we have sold, by actual count, all-in-one-piece sections to the amount of 508,930. We have seen where we fell short of being able to supply the demand promptly, and we are already laying our plans to be abreast of your orders another year. Our present large building is found so much too small, that we are now preparing to build another equal in size, attached to it, should it be God's will for us to do so. I have in some cases paid damages for delays on goods, and where you think I should do so, I am willing to have you send in your bills. In doing this, please remember I have never agreed to forward goods by any definitely specified time, and I cannot, from the nature of the business, hold myself responsible for unexpected calls for new and desirable lines of goods. I have refunded your money the very instant you asked me to do so, but I could not well do more. Were you in my place, you would have seen how difficult it was to tell you when your orders could be filled. When the order was received it might have looked as if it could not be filled under a month, but in less than 24 hours some unexpected turn in affairs would make it convenient to send this same order at once, and *vice versa*. Do not be backward in speaking right out and telling me everything that was not as it should have been, for it is from such hints and suggestions that I expect to plan and arrange the new building. One very prominent feature will be a large and commodious packing room, to allow an inspector to examine every article, with your order before him, before it is sent out. Through you, my friends, I expect to hear the voice of God directing me.

TRY OUR ITALIAN QUEENS!

Send for price list. Bees by the pound, nuclei, or colony. Circulars of our Bees, Queens, and Novelties sent free. Address—
7-9d J. H. MARTIN, Hartford, N. Y.

WHOLESALE.

500 CHOICE QUEENS for sale at 90c each. \$9.00 per doz. Also bees per lb., any quantity, at 90c per lb. Circular free.
7d F. L. WRIGHT, Plainfield, Mich.

Good Queens

65 to 75 Cents.

Raised in nature's good old way; i. e., from the egg, in full colonies, &c. I use the very best of imported and home bred stock for business, and select drones. Untested queens 75 cts. or \$5.50 for ten. Tested, \$1.50. Bees, \$1.00 per lb. Queens mailed free.
7d OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

AIN'T THEY NICE!

Those Manilla Envelopes Printed by

D. S. BETHUNE, Snyder, Ashley Co., Ark.

Why! He will print your Name, Address, and Business Card on 100 of them, for only 50 cents! What better do you want? Send him an order.
7-9d

W. Z. HUTCHINSON,

ROGERSVILLE, GENESSEE CO., MICH.,

Makes a Specialty of rearing DOLLAR QUEENS.

All queens bred from an imported mother, and the cells built in full colonies. All queens in the apiary (except the imported queen) are daughters of imported mothers. No black bees in the vicinity. Single queen, \$1.00; six queens for \$5.00; twelve or more, 75c each. Tested queens, \$2.00 each. Queens will be sent by mail, postage paid, and their safe arrival guaranteed. Send money by draft, registered letter, or by P. O. money order drawn on Flint, Mich., as Rogersville is not a money order office. A neat little circular and price list, printed in colors upon the cheirograph, will be sent free upon application.
7fd

AFTER 11 YEARS' EXPERIENCE IN QUEEN rearing, I am fully prepared to warrant all my queens pure, prolific, large, and light colored. Dollar queens, \$1.00; tested, \$2.00. Am now breeding from one of A. I. Root's best imported queens. By mail, satisfaction and safe arrival guaranteed.
6-10d S. W. STEVENS, Ridgefield, Fairfield Co., Ct.

BEES FOR SALE.

Good, full colonies of Italian and Hybrid Bees in 8 frame hives, with dollar queens, at \$1.00. The combs are 13 1/4 x 11. Good, four frame nuclei at \$2.50. A few colonies of pure Italians at \$5.00. Dollar queens, six for \$5.00. Bee hives and empty combs cheap.
7 R. S. BECKTELL, New Buffalo, Berrien Co., Mich.

Mollie Heath Honey Plant.

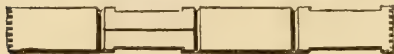
We have at last succeeded in getting some seed of this beautiful plant, which is described on page 148 of GLEANINGS for 1879. The seed is flat and bean-like. As we have but a few, in order to make them go around, we offer them postpaid, at 5 cents each. To Canada, 2 cents extra.

A. I. ROOT, Medina, Ohio.

QUEENS! ITALIAN QUEENS!

Bred from queens of my own importing, sent by mail; safe arrival guaranteed. Discount on order of ten or more, ten per cent. If any prove hybrid, another will be sent. From May 10th to June 1st, \$1.25. From June 1st to July 1st, \$1.10. After July 1st, \$1.00. CHAS. R. BINGHAM, 7d
Edinburg, Portage Co., Ohio.

DECIDED!



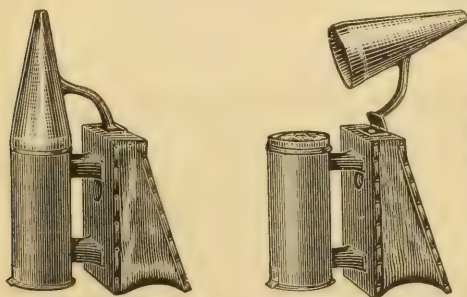
A Patent on this "Boss" One-Piece Section, heretofore called the **LEWIS SECTION, THE FINEST SECTION IN THE WORLD**, has been allowed to James Forncrook.

We clip the following from Lewis & Parks' advertisement of May number of A. B. J. to show how they have tried to mislead the public in this matter.

NOTICE.—There is no patent on the above Section, and the Examiner of Interferences of the Patent Office has adjudged the same unpatentable; so any one has an undisputed right to manufacture, sell, or use the same. Do not be misled by parties claiming a patent on the same.

We leave this matter to the public to judge who has tried to mislead. This, however, will make no difference with the price of these Sections, as we shall sell them at the old price. $4\frac{1}{4} \times 4\frac{1}{4}$ at \$6. We will make the One-Piece Section any size desired. Liberal discounts on orders of 5 and 10 thousand lots. Send for new price list, issued May 1st. Full Colony of Italian Bees, \$6.

7d JAMES FORNCROOK & CO.
Watertown, Wis., June 1st, 1880.



Scovell's, Eureka, Cold blast, Bee Smoker is Boss. It is a cold blast or a hot blast, both at once or separately, at the will of the operator. It is the only cold blast smoker on the market that has no tubes or other complicated machinery in the fire barrel to interfere with filling and cleaning. Large size bellows, $5\frac{1}{4} \times 6\frac{1}{4}$ inches; fire barrel, $2\frac{1}{2}$ inches. Price \$1.00; by mail, \$1.25. Send for illustrated, descriptive catalogue and price list of Hives, Implements, and Supplies used in bee culture. Address—7-11d SCOVELL & ANDERSON, Columbus, Kansas.

Two Gross Muth's Jars, 1 Root Ext.

For L. frames; broad frames, tin separators, &c., at 25 per cent off usual catalogue prices.

7d DR. N. C. STEELE, Corinth, Miss.

STRAWBERRY PLANTS

Pot grown and common ground layers, of all the best new and standard varieties including Sharpless, Crescent, Glendale, Windsor Chief, &c.

Potted plants will yield a good crop next June. For full information send postal card for descriptive circular.

R. MANN & SON,
Lansing, Mich.

7-9d

SMOKERS!

You can lean on a Bingham Smoker in the hour of trial. One match per day, and wood of any kind, is all that's needed. It needs no fussing or cleaning or dampers, as it works just as well pointing down as up, and never goes out. Previous to my invention and patent, the draft to all bellows was through the bellows; now all bellows smokers use an open draft. The largest and most scientific bee-keepers use Bingham Smokers, some using as many as fifteen in their various apiaries.

No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give satisfaction; but we have received hundreds of letters expressing the most unbounded satisfaction and appreciation of our invention. Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons, is it? Patented January 9, 1878; re-issued July 9, 1878.

The extra large Smoker and the Extra Standard for 1880 will have our new extra-wide shields, which entirely protect the hands and bellows from heat, and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement.

The Bingham & Hetherington Patent Uncapping Knife is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical, and scientific bee-keepers in Europe and America pronounce it "the best honey-knife ever made."

Extra Large Smokers.....	2½ inch,	\$1.50
Extra Standard ".....	2 "	1.25
Plain ".....	2 "	1.00
Little Wonder ".....	1¾ "	.75
Per ½ doz.....		3.00
Bingham & Hetherington Knife.....		1.00
" " Knife and Cap-Catcher.....		1.25

If to be sent by mail, or singly by express, add 25 cents each, to prepay postage or express charges. Send for circular. If to sell again, apply for dozen or half-dozen rates. Address T. F. Bingham or

7d BINGHAM & HETHERINGTON,
OTSEGO, MICH.

T. F. BINGHAM, Otsego, Mich. Dear Sir:—The ½ doz. Extra Standard Smokers went off like hot cakes. Please send ½ doz. more by mail. Brownsville, Ky., June 7, 1880. WM. HAZELIP.

PRIZE BRED ESSEX PIGS.

Essex are the best farmers' pig; have been known to dress 90 per cent of live weight; are small bone and light offal; quick to mature. Jos. Harris, author of "Harris on the Pig," etc., says of my boar "Porter," that he is the "finest Essex pig he ever saw."

A few Pedigree Pigs for disposal, (farrowed Feb. 23, and March 1, 1880) at moderate prices, suitable for breeding or exhibition. Personal inspection of my stock is solicited. All correspondence will have cheerful and prompt attention.

4td C. W. CANFIELD, Athens, Pa.

N. B.—A limited number of eggs for hatching from my prize winning Brown Leghorns, and Black Red Bantams, at \$2.00 per 13, warranted to hatch.

GOOD QUEENS FOR 65 CENTS.
SEE PAGE 348.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For description of the various articles, see our Twenty-Fifth Edition Circular and Price List, mailed on application.

For directions *How to Make* all these various articles and implements, see A B C of Bee Culture.

This Price List to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of postage required.

To Canada, merchandise by mail is limited to 8½ oz., and nothing can be sent for less than 10 cents postage.

A B C of Bee Culture, Five Parts complete in one, paper cover.....	1 00
The same, neatly bound in cloth.....	1 25
15 Alighting Board, detachable (See A B C) \$	1 0
Alsike Clover. See seeds.....	
Balances, spring, for suspended hive (60 lbs.).....	8 00
Barrels for honey.....	2 50
10 " " waxed and painted.....	3 50
Basket for broken combs to be hung in the Extractor.....	25
Basewood Trees for planting. See price list.	
Bees, per colony, from \$8 to \$16. See price list.	
10 Bee-Hunting Box, with printed instructions.....	25
0 Binder, Emerson's, for GLEANINGS.....	50, 60, 75
10 Blocks, iron, for metal cornered frame making.....	15
Buckwheat. See seeds.....	
10 Burlap for covering bees, 40 in. wide, per yd.....	10
Buzz-Saw, foot-power, complete.....	35 00
Buzz-Saws, extra, 80c, to \$3.25. See price list.	
60 Buzz-Saw mandrel and boxes complete for 6 inch saws (no saws included).....	5 00
The same for 7 and 8 in. saws (not mailable).....	7 00
4 Cages for queens, provisioned (See price list).....	10
48 " " per doz.....	1 00
Candy for bees, can be fed at any season, per lb.....	.08 to 15
Cans for shipping extracted honey (See Honey), from 25c to \$2.00.....	
0 Cards, queen registering, per doz.....	06
0 " " per 100.....	40
60 Chaff Cushions for wintering (See A B C).....	30
9 " " without the chaff.....	20
2 Chaff Hive (See Hives).....	5 00
Cheese cloth, for strainers, per yard.....	10
Clamps for making section boxes.....	75
10 Clasp for transferring, package of 100.....	15
Climbers for Bee-Hunting.....	2 50
Comb Basket, made of tin, holds 5 frames, has hinged cover and pair of handles.....	1 50
Comb Foundation Machines complete \$15 to 100 00	
10 Comb Holder to put on edge of hive.....	25
Combs in metal cornered frames, complete.....	25
20 Corners, metal, per 100.....	50
25 " " top only, per 100.....	60
15 " " bottom, per 100.....	40
Corners, Machinery complete for making \$250 00	
Crate for shipping comb honey. See Hives.	
40 Division Boards of cloth and chaff.....	20
12 Duck, for covering frames and for feeders, 29 inches wide, per yd.....	20
15 Enamelled Cloth, bees seldom bite or propolize it, per yard, 45 inches wide, 30c. By the piece (12 yards).....	28
Extractors, according to size of frame, \$6 50 to 10 00.	
" Inside and gearing, including Honey-gate.....	4 00
" Hoops to go around the top.....	50
" " per doz.....	5 00
5 Feeder, Simplicity (See price list) 1 pint.....	05
7 Feeders, 1 quart, tin.....	10
5 The same, half size.....	05
25 The same, 6 qts, to be used in upper story.....	50
20 Feeders, open air.....	15
3 Files for small circular rip saws, new and valuable, 15c; per doz, by express.....	1 75
07 " The same, large size.....	40
2 " 3 cornered, for cut-off saws, 10c; doz.....	1 00
Foundation. See Comb Foundation.	
60 Fountain Pump, or Swarm Arrester.....	8 50

5 Frames with sample Rabbet and Clasp.....	07
18 Galvanized Iron Wire for grapevine trellises per lb. (about 100 feet).....	20
25 Gates for Extractors tinned for soldering.....	50
55 Gearing for Extractor with supporting arm Glass. See price list.....	1 25
0 GLEANINGS, per year.....	1 00
For prices of back vol's, see price list.	
Gloves. See Rubber Gloves.	
Grape Sugar for feeding bees. See price list.	
Grape vines for shading hives. See price list.	
Hammers and nails. See price list.	
Hives from 50c to \$6 25. See price list.	
Honey. See price list.	
" Plants. See seeds.	
0 Honey Knives, straight 75; curved blade.....	1 00
" " ½ doz, by mail.....	4 00
" " ½ doz by Express.....	3 75
Jars for shipping extracted honey. See Honey.	
Labels for honey, from 25 to 50c per 100; for particulars see price list.	
Lamp Nursery, for hatching queen cells.....	5 00
0 Larvæ, for queen rearing, from June to Sept.....	25
15 Leather for smoker bellows, per side.....	50
10 Lithograph of the Hexagonal Apiary.....	25
1 Magnifying Glass, pocket.....	25
5 " " Double lens, brass, on three feet.....	1 00
0 Medley of Bee-Keepers' Photo's, 150 photo's.....	50
12 Microscope, Compound, in Mahogany box.....	3 00
0 Prepared objects for above, such as bee's wing, sting, eye, foot, &c., each.....	20
7 Muslin, Indian head, for quilts and cushions, pretty stout, but not good as duck, per yard.....	10
Nails. See Hammers and nails.	
10 Opera Glasses for Bee-Hunting.....	5 00
18 Paraffine, for waxing barrels, per lb.....	26
Photo of House Apiary and improvements.....	25
Planes and Planers. See price list.	
15 Pruning saws for taking down swarms, 75 and 85	
0 Queens, 25c to \$12 00. See price list.	
2 Rabbets, metal, per foot.....	02
0 Rubber Gloves, \$1.50 and \$1.75. See price list.	
0 Rubber Stamps, \$1.50 to 3.00. See price list.	
0 Rules. (See Pocket Rules) 12 and 17c.	
Salicylic acid, for foul brood, per oz.....	50
10 Saw Set for Circular Saws.....	75
Saws. See Circular Saws.	
Scales for weighing honey, etc. See price list.	
0 Scissors, for clipping queen's wings.....	40
0 Screw Drivers, all metal (and wrench combined) 4½ inch, and 5 inch, 8c.	
6 Section Boxes, fancy, hearts, stars, crosses, &c., each.....	05
Section Honey Box, a sample with strip of fdn. and printed instructions.....	05
Section Boxes in the flat by the quantity, \$6 00 per thousand and upwards, according to size; for particulars, see price list.	
Case of 3 section boxes, showing the way in which the separators are used, suitable for any kind of hive (See price list).....	07

SEEDS OF HONEY PLANTS.

18 Seed, Alsike Clover, raised near us, per lb.....	25
18 " Catnip, good seed, per oz. 10c; per lb.....	1 00
0 " Chinese Mustard, per oz.....	10
18 " Mellilot, or Sweet Clover, per lb.....	75
18 " White Dutch Clover, per lb.....	30
18 " Motherwort, per oz. 10c; per lb.....	1 00
18 " Mignonette, per lb. (20c per oz).....	1 40
18 " Simpson Honey Plant, per oz.....	50
18 " Silver Hull Buckwheat, per lb.....	10
" " peck, by Express.....	60
18 " Common " per peck.....	50
" Summer Rape. Sow in June and July, per lb.....	15
" Spider plant, per oz.....	50

A small package of any of the above seeds will be sent for 5 cents.

Separators, tin, for section boxes. See Section Boxes.	
5 Sheets of Enamelled Cloth to keep the bees from soiling or eating the cushions.....	10
Shipping Cases for 48 section frames of honey.....	55
The same for 24 sections.....	35
(This size can be sent by mail in the flat, for 75c.)	
1 Slate Tablets to hang on hives.....	1½

SMOKERS.

	Smoker, Quinby's.....	1 00, 1 50, & 1 75
	" Bingham's.....	\$1 00; 1 25; 1 50; 1 75
25	" OUR OWN, see illustration in price list.....	75
00	Soldering Implements.....	1 00
	Swarming Box.....	75
2	Tacks, tinned, per paper, (three sizes).....	05
	For larger quantities see Hammers and nails.	
5	Thermometers.....	15
10	Transferring clasps, package of 100.....	15
	Tin, see price list.	
0	Veils, Bee, with face of Brussels net, (silk).....	75
	The same, all of grenadine (almost as good).....	50
	Veils, material for, grenadine, much stronger than tarlatan, 21 inches in width, per yard.....	20
	Brussels Net, for face of veil, 36 inches in width, per yard.....	1 50
	Wax Extractor.....	3 00
	Copper bottomed boiler for above.....	1 00
5	Wire cloth, for Extractors, tinned, 5 meshes to the inch, per square foot.....	10
2	Wire cloth, for queen cages, tinned, 18 meshes to the inch.....	10
3	Wire cloth, painted, for shipping bees, 14 mesh to the inch, per square foot.....	05
	Wire for grape vine trellises. See Galvanized iron wire	

All goods delivered on board the cars here at prices named.
A. I. ROOT, Medina, Ohio.

RUBBER STAMPS

DATING, ADDRESSING, BUSINESS,
LETTER HEADS, ETC.



No. 1.



No. 3.



No. 2.

Address only, like No. 1, \$1.50; with business card, like No. 2, \$2.00; with movable months and figures for dating, like No. 3, \$3.00. Full outfit included—pads, ink, box, etc. Sent by mail postpaid. Without ink and pads, 50c less.

Put your stamp on every card, letter, paper, book, or anything else that you may send out by mail or express and you will save yourself and all who do business with you "a world of trouble." I know, you see.

We have those suitable for Druggists, Grocersmen, Hardware Dealers, Dentists, &c., &c. Send for Circular.
A. I. ROOT, Medina, Ohio.

Headquarters for Early Queens!

Imported and Home-bred; Nuclei and full Colonies. For quality and purity, my stock of Italians can not be excelled in the United States. If you wish to purchase Bees or Apian Supplies, send for my new Circular. Address Dr. J. P. H. BROWN, 17fd Augusta, Ga.

SENT FREE-- My Price List of Italian Nuclei, and Apian Supplies for 1880. Address, 5fd H. H. BROWN, Light Street, Col. Co., Pa.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st. If wanted sooner, see rates in price list.

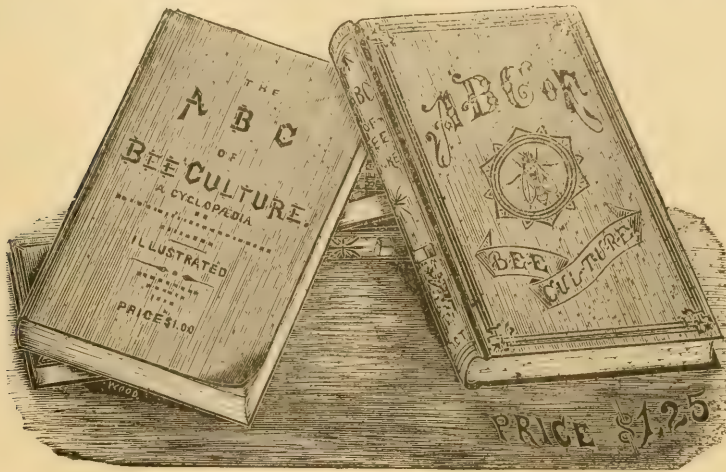
*E. W. Hale, Wirt C. H. W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7tf
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	7tf
*King & White, New London, O.	7tf
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*J. R. Landes, Albion, Ashland Co., O.	7fd
*D. A. McCord, Oxford, Butler Co., O.	2-1
*D. E. Best, Best, Lehigh Co., Penn.	2-8
*R. Robinson, LaCade, Fayette Co., Ill.	3-8
*S. F. Newman, Norwalk, Huron Co., O.	7fd
*C. C. Vaughan, Columbia, Maury Co., Tenn.	8
*S. W. Salisbury, Kansas City, Jackson Co., Mo.	3-8
*S. D. McLean & Son, Culleoka, Maury Co., Tenn.	3-8
*S. D. Moore & Co., Atlanta, Fulton Co., Ga.	7-8
*T. G. McGaw, Monmouth, Warren Co., Ill.	3-8
*R. Thomson, Terry, Hinds Co., Miss.	3-8
*Lewis A. Best, Best, Lehigh Co., Pa.	4-9
*J. B. Bray, Lynnville, Giles Co., Tenn.	4-9
*O. H. Townsend, Hubbardston, Ionia Co., Mich.	4-9
*Thos. E. Price, Baden, St. Louis Co., Mo.	4-8
*Oliver Foster, Mt. Vernon, Linn Co., Iowa.	7fd
*I. R. Good, South West, Elkhart Co., Ind.	5-10
*J. M. C. Taylor, Lewistown, Fred. Co., Md.	6-11
*B. Marionneaux, Plaquemine, Iberville Par., La.	55
*Ila Michener, Low Banks, Ontario, Can.	5-10
*Dr. B. F. Kinney, Leesburg, Col. Co., Pa.	6-9
*W. H. Nesbit, Alpharetta, Milton Co., Ga.	6-9
*Jas. P. Sterritt, Sheakleville, Mercer Co., Pa.	6-8
*W. S. Canthen, Pleasant Hill, Lan. Co., S. C.	6-10
*J. C. Deem, Knightstown, Henry Co., Ind.	6-9
*V. W. Keeney, Shirland, Win. Co., Ill.	6-9
*J. O. Facey, New Hamburg, Ont. Can.	6-8
*J. T. Wilson, Mortonsville, Woodford Co., Ky.	6-5
E. B. Plunket, Atlanta, Ga.	6-8
*J. A. Bingham, Volant, Law. Co., Penn.	6-8
*I. M. Kauffman, Belleville, Mifflin Co., Pa.	6-8
Jno. Conser, Glenn, Johnson Co., Kans.	7-1
*J. S. Woodburn, Newville, Cumb. Co., Pa.	7-10
*J. H. Reed, Orleans, Orange Co., Ind.	7-9
*Yoder Bro's, Vistula, Elkhart Co., Ind.	8
*E. H. Knapp, Fabins, Onon. Co., N. Y.	8
Otto Kleinow, opp. Fort Wayne, Detroit, Mich.	8
J. A. Shuck, Lawrence, Douglas Co., Kansas.	8
*H. L. Jeffrey, Woodbury, Litch. Co., Ct.	8

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La.	7fd
T. F. Wittman, 318 N. 6th St., Camden, N. J.	7fd
S. F. Newman, Norwalk, Huron Co., O.	7fd
Sprunger Bro's, Berne, Adams Co., Ind.	3-2
J. F. Hart, Union Point, Greene Co., Ga.	4-3
Nichols & Elkins, Kennedy, Chaut. Co., N. Y.	6-11
M. S. West, Pontiac, Oakland Co., Mich.	8-1

THE A B C of BEE CULTURE.



FOR several years, it has been my ambition to be able to write a book on bee culture, so clear and plain that not only any boy or girl, but even an old man or woman, with the book and a hive of bees, could learn modern bee culture, and make a fair, paying business, *even the first season*. This is a great undertaking, I grant; and it will require some one with far greater wisdom than mine, to do it the first time trying. After watching beginners, and answering their questions almost constantly, for years, I came to the conclusion, that the only way to do it was to "cut and try," as carpenters say, when they can't get the exact dimensions of the article they wish to make.

To cut and try on the A B C book, I have invested over \$2,000 in type, chases, etc., sufficient to keep my whole book standing constantly in type, that can be changed at a moment's notice. The books are printed only as fast as wanted, and just as soon as I see I have omitted anything, or have made any mistake, the correction is made before any more books are sent out. To show you how it works, and how it succeeds, I will give you an illustration.

A beginner writes to know if it is of any use to keep a queen, after she is eighteen days old and does not lay. Now I know very well that a queen should lay when from ten days to two weeks old; and also, that they will sometimes not commence until they are three weeks old, and then make good queens. Now, although I directed that they should be tossed up in the air, to see if their wings were good, when they did not lay at two weeks of age, I did not say, if their wings proved to be good, how long we should keep them. If I could spare the time of the colony, I would keep a good looking queen that could fly well, until she is 25 days old; if crowded for a place to put cells, I would kill all that do not lay at 18 or 20 days old.

I have just put the above in the A B C, and that is just the way I am going to keep doing. You see, you beginners are, ultimately, to build up the book.

It will tell you all about the latest improvements in securing and **Marketing Honey**, the new 1 lb. **Section Honey Boxes**, making **Artificial Honey Comb**, **Candy for Bees**, **Bee Hunting**, **Artificial Swarming**, **Bee Moth**, all about **Hive Making**, **Diseases of Bees**, **Drones**, **How to Make an Extractor**, **Extracted Honey**, **Feeding and Feeders**, **Foul Brood**, **Honey Comb**, **Honey Dew**, **Hybrids**, **Italianizing**, **King Birds**, **The Locust Tree**, **Moving Bees**, **The Lamp Nursery**, **Mignonnette**, **Milkweed**, **Motherwort**, **Mustard**, **Nucleus**, **Pollen**, **Protopolis**, **Queens**, **Rape**, **Raspberry**, **Ratan**, **Robbing**, **Rocky Mountain Bee Plant**, **Sage**, **Smokers**, including instructions for making with illustrations, **Soldering**, **Sourwood**, **Stings**, **Sumac**, **Spider Flower**, **Sunflower**, **Swarming**, **Teasel**, **Toads**, **Transferring**, **Turnip**, **Uniting Bees**, **Veils**, **Ventilation**, **Vinegar**, **Wax**, **Water for Bees**, **White-wood**, and **Wintering**. It also includes a **Glossary of Terms and Abbreviations** used in **Bee Culture**.

The book, as it is now, contains about 300 pages and about 200 Engravings.

Bound in paper, mailed for \$1.00. At wholesale, same price as GLEANINGS, with which it may be clubbed. One copy, \$1.00; 2 copies, \$1.90; three copies, \$2.75; five copies, \$4.00; ten copies, \$7.50.

The same, neatly bound in cloth, with the covers neatly embellished in embossing and gold, one copy, \$1.25; 2 copies, \$2.40; three copies, \$3.50; five copies, \$5.25; ten copies, \$10.00. If ordered by freight or express, the postage may be deducted, which will be 12c on the book in paper, and 15c each, on the book in cloth.

A. I. ROOT, Medina, O.

Contents of this Number.

A New Scholar's Troubles.....	366
Apiary, Allen's Lawn Hive.....	373
A Visit from a Louisiana A B C Scholar.....	374
BEE BOTANY AND ENTOMOLOGY.....	371
Bees, How to Realize the Most Money, &c.....	372
BLASTED HOPES: How to Bear Disappointment.....	376
Brains versus Machinery.....	376
Dzierzon Theory; Extract from Prof. Cook's Biology.....	375
EDITORIALS.....	358, 365, 392, 399
Farris Fdn. Machine: New Developments.....	363
Frame, which is the Best.....	363
Foul Brood.....	378
Giving Plain Directions for A B C Scholars.....	377
Given's Press a success after All.....	360
GROWLERY: Saying Goods Did not Come.....	365
HONEY COLUMN.....	362
HUMBUGS AND SWINDLES: Mitchell.....	400
Notes from the Banner Apiary.....	359
OBITUARY: John Hunter.....	370
OUR OWN APIARY, HONEY FARM, AND FACTORY.....	367
Queen Cells, Choice, How to Get Plenty.....	362
Saw Mandrel and Table, Home-made.....	366
Some Things Learned by Experience and Observa- tion.....	359
Swarms Leaving after Being Hived.....	378
Yucca or Spanish Bayonet.....	375

INDEX OF HEADS OF GRAIN, NOTES AND QUERIES,
AND OTHER SHORT ARTICLES.

Alfalfa.....	371	Honey from Basswood.....	391
Alighting Boards of Slate.....	387	House from Clover.....	390
Apiary, D. A. Jones.....	389	House to set over Hive when Robbers are troublesome.....	390
Asparagus as a Honey Plant.....	387	Hybrids, a good Report from.....	382
Bee Fever, How Induced.....	385	" vs. Italians for Hy-382	
Hawk, Anax Junius.....	372	Introducing, a Failure in.....	382
Killer, Assilus Mis.....	391	Jones, D. A.....	388
Bees and Fruit.....	382, 390	Loured.....	371, 386
Attacking Their Own.....	379	Mistakes of Beginners.....	374
Queen.....	379	Monarda Aristata, great Yield of Honey from.....	372
Black: Do They Work on.....	388	Money, Losing by the Mail.....	389
Red Clover.....	388	Oil-cloth, worn, for Cover- ing Frames.....	387
By the Pound.....	388, 390	Patent Hive Venders.....	385
Difference in Working.....	384	Patent, The Former one.....	365
Qualities of.....	384	Plaster Casts, Hardening with Alcohol.....	380
Do They Rest.....	360	Queen Cells, Inserting.....	388
How to Get Them into a.....	360	" Marked and.....	390
Page.....	388	" Natural.....	391
Non-Swarming.....	380	" Raising does " Pay.....	389
Pursuit of, &c.....	370	" Turning Up- side Down.....	387
Saying Those to be Kill ed.....	391	Queen, Red-Clover, in 2d yr.....	388
Swarming Out.....	373	Slugg, Reproducing.....	387
That Won't Start Q. Cells.....	386	Queens, Cyprin and Holly Land.....	387, 390
Why Cross.....	386	Dead, in Pkt. of Hy.....	381
Wild, in Texas.....	389	Dollar.....	380
Beeble, Ross, Staphylinus.....	372	With the Queen.....	389
Syrphid Mamestratus.....	372	Flying when Int.....	384
Bombus Mexicanus.....	372	Meet. Dr. twice.....	391
Broad, Unsealed, to New Swarms.....	389, 386	that won't Lay.....	381, 394
Back Bush.....	371	to W. T.; how sent.....	384
Blackthorn.....	371	R. R. Orange, Faulty.....	384
Building up Queen and lb. of Bees.....	390	Rain, Too Much.....	381
Burnt Bush.....	381	Rape.....	381
Candy, Pollen.....	382	Report from Tennessee.....	381
Candy.....	382	Sages of California.....	371
Cheshire Bakes as Trans- ferring Wires.....	384	Seeds, Unfilled, keeping over.....	380
Do, an Improvement in.....	387	Seed Gardens, value of to Aparians.....	379
Clover, Milled.....	367	Sending of, and Bees to Col.....	381
Red, Strong Stocks.....	367	Simp, Upper Story over.....	374
Gathering Honey from.....	369	Box Hives.....	374
Comb's, Broken-down, what to do with them.....	368	Simpson Pkts., 367, 370, 380, 383 Smo., Simp., Large-Size.....	369
Cotton, Honey from.....	369	Sourwood.....	371, 386
Dipping - Machine, Harri- son's.....	361	Sp. Needles as a Hon. Plant.....	389
Eggs, two or more in 1 Cell.....	360	Spider Pkts., 367, 370, 380, 383 Stone Crop.....	371
Feeding Ext. Honey to get Comb Hon. in Sections.....	369	Sugar Cane, Early Amber.....	391
Fdn., Drone, for Comb Hon.....	382	Sumac.....	390
Dunham.....	379	Sw'm'g; Is it retard'd by bxs.....	392
Fastening in Frames.....	386	Swarm, Absorbing.....	381, 390
Keeping Over.....	380	Texas, Good Report from.....	380
Making.....	388	Thieves, How to Circumvent.....	382
Putting into Waxed Brood Frames.....	377	Thistles, Blue, etc.....	378, 386
Frames, using other than L.....	363	Touids.....	380
Heart's ease.....	381	Toxic, Homocing.....	380
Hive, how to get an Insight of the Inside.....	379	Verbena, Mullen.....	371
Hives, changing Old into L.....	360		

DURING the past month, every order has been filled promptly almost without exception, and the greater part of them have gone off the day the order was received. Queens have been nearly all the time caged ready to go the minute the letters were opened, but it has taken hundreds of queens to do it, and more sharp managing perhaps than you are aware of. It is fun to do business in that way, but if you think 40c on a queen is too much (to pay for cages and make everybody satisfied), just try it.

HOUSE APIARIES are being generally discarded.

WE are rejoicing to-day, the 28th, in 4,883 subscribers, the highest "pinnacle" ever reached.

ON p. 381, the heading of L. E. Sinsabaugh's communication should read, Button Bush instead of Button Ball.

THE BEST FEEDER.—A slab of maple sugar, made by pouring it while hot into a frame. Hang this frame in the hive, just as you would a frame of honey.

COUNTER STORE.
FOR latest additions to, and reduction in prices of, the COUNTER STORE goods, send for our new price list for August 1st.

THE heap of letters waiting for a place in GLEANINGS is greater than it ever was before. One of my sore troubles just now is that I can not make room for more than a tenth part of the real good ones.

CONVENTIONS.
OCT. 6 and 7.—Tuscarawas and Muskingum Valley Bee-Keepers' Convention, at Newcomerstown, Ohio, Oct. 14 and 15.—Western Illinois and Eastern Iowa Society, at New Boston, Ill.

ERNEST has discovered that the red pencils on our 10c counter are excellent for writing on the slate that we hang on the hives. The bright red marks can be read easily from a distance, and it is not affected at all by rain, like a common pencil. For all that, it can be rubbed out without much trouble. Price by mail, 11c.

THE ENAMELED CLOTH SHEETS.
WITH the past month's experience, I decidedly prefer the tin lined enameled sheets to the wooden mats, even if they do cost as much again. If your Simplicity hives are not made so as to receive the ends of the tins, saw a little notch in each corner to let them in.

THE GIVEN PRESS AGAIN.
SINCE our article, Mr. Blosser, a neighbor of friend Good's, has paid us a visit, and he says the machine Good speaks of only takes a short L frame to go crosswise of the hive. It would be easy work for so small a frame, compared with the regular L frame.

DOES AN IMPORTED QUEEN EVER PRODUCE BLACK OR HYBRID BEES?

THE case given on page 291, June No., has been so explained as to make it at least extremely probable that the queen was not the real imported queen we sent, and friend Bowen consents to calling the loss his own. One more like case is in hand, and I have sent for the queen that I may test her progeny in our own apiary. As none of the hundreds we have imported have ever produced any black or hybrid bees in our own apiary, I think we can set it down safely, that there are no common bees in Italy.

BLASTED HOPES.
WE have a pretty full Blasted Hopes column this month, and I am a little afraid it will give a false impression. If the friends who have said so much about poor seasons will pardon the liberty I take, I would like to add that so far as my personal acquaintance extends, the ones who complain most of poor crops, hard times, and bad seasons, are almost always those who neglect their business, waste their time talking, leave their tools out in the rain, etc. I have never known a season that would not give at least a moderately fair crop of honey, if rightly improved, and, bear in mind that when you complain of the weather, you are complaining of God.

WANTED!

A good man that understands Bee Culture, and Farming. Farm is stocked with bees, sheep, and cows. He must have a good recommendation. I live in a good locality.
R. J. THOMAS,
8d Montrose, Pa.

ANOTHER REDUCTION!

Tested Queens, \$1.50; Dollar Queens, 75c; Hybrids, 25c. All are daughters of imported mothers.
J. A. WARD, Madisonville, Ohio.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

AUGUST 1, 1880.

No. 8.

A. I. ROOT,

Publisher and Proprietor,
Medina, O.

Published Monthly.

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NOTES FROM THE BANNER APIARY.

No. 9.

THIEVES; HOW SHALL WE CIRCUMVENT THEM?

THREE or four bee-keepers in this vicinity, myself among the number, lost bees, hives, honey, etc., last season by the visitation of thieves. Now, I, for one, would like to know how to get the better of these light-fingered (yes, and light-footed) gentry. Some say, "Keep a dog;" but dogs are very unreliable. Besides, I would rather lose a swarm occasionally than to go to the trouble and expense of keeping a dog. In my estimation, dogs, as a general thing, are very poor property. Novice tells us to build a high board fence, and it will keep out both thieves and cold winds. True; but would not such fences be unsightly, and would they not shut out the view? A little more than a year ago, a writer in the *American Bee Journal* described an electrical alarm to be used in the apiary; but it was too complicated and expensive to suit my ideas. Among all of us four or five thousand GLEANINGS readers, isn't there some one who understands electricity well enough to get up something upon the electrical plan that will be simple and cheap? Friend Prudden, of Ann Arbor, says that he fortified his premises with "telegraph wires around and through in every direction attached to an alarm." Friend P., please tell us just how you arranged them. I have sometimes thought of building a picket fence,—one that would be inconvenient, if not impossible, to scale, if not around my whole apiary, at least in front of my place, and then have the front gate connected by means of a wire with an alarm in the house. I would have the alarm connected with the gate only during the night.

Please tell the boys to wash the ink from their cheirographs just as soon as they get through using them, and not let it stand and soak in, so that they will be obliged to melt it over again, as a certain person did.

Neighbor Ranney wants to know why you could not solder a piece of coarse wire cloth over the draft hole of the smokers, to keep the coals from tumbling out; and neighbor Stimson would like to know what has become of the cartoons.

I hope the friends will excuse me if my "notes" are neither long nor very interesting this month, as

the "rush" and "gush" of a fine flow of basswood honey keeps me very busy. W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

In regard to thieves, friend H., unless they are much more common than I think they are, I feel sure the apparatus you mention will be more expensive and troublesome than the loss you sustain as it is. Even remembering to fix your gate every night would be quite a little task, even if it really did answer the purpose. Our apiary stands alone, away off in the field almost, as it were, and yet we have never lost an ounce of honey by thieves. I agree with you that we must fight, but I think it is in the line in which I told you to fight intemperance last month. It is bad to have your hives robbed, but it is a thousand times worse to have neighbors who are sending their souls down to ruin by engaging in such work. Go to work to save these neighbors, and the thieving will die a natural death, with intemperance, injustice, and all other troubles, if I get a clear idea of the matter.—Wire cloth over smokers is an old and discarded idea. It clogs up the tubes and catches soot.—I have dropped the cartoons because of the severe scolding I have received from some who do not think them in good taste.—Friend H., I am sure we are about as much interested in that flow of basswood honey, as you can be, and we want you to tell us all about it,—what you are doing, and how many bees you have.

SOME THINGS LEARNED BY EXPERIENCE AND OBSERVATION.

GIVING A NEW SWARM UNSEALED BROOD.

WILL unsealed brood prevent swarms from leaving the hive in which they are placed?

If not, why not? In the July No. of GLEANINGS, we have three instances given where swarms hived in a hive in which had been placed brood in all stages left the hive, thus thwarting the purpose for which said brood was placed in the hive; viz., to prevent their decamping. Previous to 1871, I had never clipped any of my queens' wings, and was often fearful that my new swarms might desert the hives they were placed in. During the spring of said year, I read that a frame of unsealed brood

placed in the hive at the time of hiving was a sure preventive of the swarm's decamping. This was read with enthusiasm, as here was a plan by which my fears could be entirely removed. Consequently, when my first swarm issued, I hastened to get a frame of brood in all stages, which also contained some honey to start them in house-keeping, as Elisha Gallup used to tell us about. They were hived about two o'clock, and we went to bed that night feeling that our first swarm of the season was well provided for, and would be sure to stay. The next morning, we took a look at them and went to work. At about 9 o'clock, the cry, "Bees are swarming," was heard, and, upon reaching the bee yard, our new swarm was seen going for parts unknown. Our lips were bit as we thought of some proper form of sound words to vent our spite on the author of this plan of keeping swarms from absconding, while we resolved that every queen's wings in the yard should be clipped, which was done without delay. Since that time, we have frequently hived swarms and given them brood by way of experiment, and have given brood to artificial swarms, and had many of them come out; but as their queen could not fly, of course they could not abscond. Still, probably three-fourths of the swarms hived in this way staid, and worked all right, while not one in 20 hived in an empty hive bothered us by attempting to leave. Hence our experience goes to prove that unsealed brood will not prevent swarms from leaving, but, on the contrary, makes the probability of loss greater. But, says one, bees ought not to leave unsealed brood. Why not? they do in natural swarming, when they issue from the parent hive; upon examining the hive from which our first swarm decamped, we found they had built two pieces of comb as large as your hand, and had built queen cells upon the frame of brood, in which the queen had deposited eggs; thus showing that they considered the conditions the same, or nearly so, as they were in the parent hive from which they had issued the day previous. There was also nearly enough bees left, with those returning from the fields, to care for this frame of brood. Since then, we have used such as this for nuclei by substituting a frame of hatching brood for the unsealed larvae, and, although rather expensive as to trouble, still they make splendid nuclei.

TWO OR MORE EGGS IN A CELL.

Queens often deposit two or more eggs in a cell, especially when a colony is weak. It is a question with some what becomes of these eggs. From observation, I am led to believe that most of them hatch, after which, sooner or later, they are removed by the bees. I have frequently seen three very small larvae in one cell, and upon one occasion I marked such a cell by placing pins in the comb around it. The next time I looked (in about 24 hours) there were but two. These were left till they were about two-thirds grown, when one of them was removed. We were quite excited over the matter at the time, thinking, if drone cells could be so used, by excluding all worker comb from the hive, we could rear two and three bees in a cell; but finally concluded such a thing would not be practical, even if we could accomplish it at all.

DO BEES REST?

Tell J. S. Wilson's "Blue Eyes" that, if her father will make a hive in which to hang one frame, and place a glass on each side of it, so she can see both

sides of the comb, and then hive a small second swarm in it, or make a strong nucleus, she can see the bees rest and perhaps even sleep. She can see the queen lay eggs, and, in short, can see all the operations going on inside the hive. When they are nicely at work on basswood, clover, or buckwheat, sit down by the hive, with the cover to the glass removed, and watch the bees as they come in at the entrance. Presently you will see a bee hunting for some of the young or nurse bees; and, when found, the two will put their tongues together, and the loaded bee will give its load to the other, after which this bee will often stay and rest from 5 to 15 minutes, and again, as soon as the load is given up, it will immediately return to the field. The young bee will soon go and place its head in a cell, where, I suppose, the honey is placed by it, although it is hard to see what is going on, as the bee's head fills the cell. This and many other curious things can be seen with an observatory hive containing but one frame.

G. M. DOOLITTLE.

Borodino, N. Y., July, 1880.

With all due respect, friend D., for the opinion of one who has had the experience and success which you have had, I would suggest that you are going a great ways when you think a frame of eggs and young larvae a detriment. I have never given the boys any rule in bee culture, which has so invariably worked well as the one directing them to have no hive, under any circumstances, one hour without unsealed brood. We have had a great many natural swarms brought us this season, and many of them were after swarms. Well, when we were very busy, a number of them were put into hives, without this frame of brood. Some of them deserted the hive and went off because they had no queen, she having been killed in living or, by some accident, in dividing. Others followed the queen on her wedding trip. In others, the queen did not lay for a week, and then, to see whether they had a queen or not, we gave them some brood. Over and over again, have I been told that young queens would not lay, but some young brood either started the queen to laying, or, by the queen cells started, revealed the fact that she had been lost. Is there any other quick, sure way of deciding this question? and is not unsealed brood an advantage to a new swarm in such a case? It seems to me I have tried both ways faithfully, and my decision is that I would by no means risk a new swarm in a hive, even if filled with combs, without the comb of unsealed brood that has so long been recommended. Who has not seen a swarm hived without a queen, and seen them dwindle away without laying up any surplus, when a little unsealed brood would have set them right to work, and given them a queen too, often long before the discovery was made that they were queenless?

GIVEN'S PRESS A SUCCESS AFTER ALL.

I HAVE been using the Given press with perfect success. We had trouble to get to going, having never made any fdn. of any kind before (see *American Bee Journal* for Aug.); but when we "struck our gait," we made 100 sheets per hour, securely put into wired frames. We made hundreds

of sheets like the sample enclosed, for surplus boxes, and made them faster than we could put them through the 9 inch roller mill, just shipped to you. We have made about 1,700 sheets in wired frames and every one stands up perfectly, in the hive. The queen does not avoid a single wired cell, as she does where the fdn. is pressed on by hand. The wires are level with the surface of the septum, which septum is concave, the wires partaking of the same shape.

In my judgement from actual experience, Mr. Given has "given" the bee-keepers of America the best invention of the day, and I felt sorry to have other than such credit go before your readers. I never saw Mr. G., but I bought a press on trial, and have paid for it. He owes me nothing, and I owe him nothing but justice, and this I will give him, if within my power. I would not take \$200.00 for my press if I could not obtain another cheaper. This fdn., having such heavy lines and thin septum, is quickly worked out by the bees, and makes a deeper cell, for the weight of the sheets, than any I have ever seen before. The fdn. used in boxes is quickly drawn out, and leaves so thin a base that no "fish bone" is discernable. I speak from an experience with over 400 colonies; with 100 hives of fdn. pressed onto wires by hand, and closely watched, and some 215 hives of Given's pressed fdn. frames, and several thousand sections of Root, Dunham, and Given foundation now in operation. We are making close inspection of their comparative merits a specialty.

I am free to confess that there is much more in pure *beeswax* fdn. properly made than I had supposed.

JAMES HEDDON.

Dowagiac, Mich., July 6, 1880.

Many thanks, friend H. I am all the more glad to get a favorable report of the Given press, because it was a partial failure in our hands. I had no trouble in getting a small piece with thin bases, like the sample you send, but I could never make a whole L. sheet with walls anything like it, nor were there any such in the whole frame that Mr. Given sent us as a sample. The bees use them, it is true, but not as readily, with us, as the fdn. more perfectly stamped.—The 9 inch rolls, as you returned them, would not make any fdn. at all, for the reason that the gear-wheels had been separated, and not replaced according to the marks.—There is certainly some misunderstanding about the queen's avoiding the wired cells. We have wired combs in all the hives in our apiary, but I have never been able to find one where the queen had skipped our small tinned wires, and the brood is capped evenly right over the wires. In fact, we often find eggs attached to the naked wire.—I am glad to know, friend H., that you have withdrawn your objections to fdn., and also glad that you have been convinced through the Given press. Our girls work considerably faster than 100 an hour; but still, that will do very well.

I sent a proof of the above to friend H., and he adds as follows:

I want to say that we did not use the die book that you had, but, on our own, we made sheet after sheet, all as perfect as the piece sent you, as many who have been here and bought pounds of it will testify. We made 100 wired frames per hour, but we can make the plain sheets, not wired, and not in frames, much faster; we believe faster than the

roller mill can be made to do it, so long as the ends have to be picked up. There is where we gained on the roller mill.

JAMES HEDDON.

July 22, 1880.

This explains the matter much better. The press was certainly good enough, and nice enough, but it was the copper dies that would not make a nice even sheet, nor let loose the sheets we did make. Please tell us, friend H., who made your dies and what they cost.

A "GOOD" LETTER FROM FRIEND GOOD.

Good morning, friend Root. I thought I would drop in this morning and have a little chat, as I can not work at taking off honey. There are 500 or more robbers ready to pitch into the hive the moment it is opened. Smoke will not keep them out. Surplus honey was nearly an entire failure here. It was too wet and cold through white-clover bloom. Basswood lasted but a short time, but yielded well while it did last. Those bees that were strong and in good condition when basswood opened made considerable honey. Mine made from 10 to 60 lbs. to the colony. In this neighborhood, not one-half of the bees worked in surplus boxes. The Italians are far ahead of the blacks in early swarming and in honey.

I am glad to hear that you are going to enlarge your shop. Your pocket-book must have grown wonderfully in the last two seasons. You should not be too free to pay out your money for worthless inventions.

THE GIVEN PRESS.

I believe Given's fdn. press is the best machine made for making fdn. I have one of them, and my experience with it is just the reverse of yours. I have never purchased a machine of any kind that gave better satisfaction than it does. I can make thin or thick fdn., and have no trouble with the wax sticking to the dies. I can put fdn. that will go five square ft. to the pound in wired frames, and not cut one wire in filling 50 frames. I use none but wired frames in my apiary. I would not give my Given's fdn. press for any of your \$100 machines. I will admit you can make more fdn. in one day on your machine than can be made on the Given press. *

Those all-wood frames purchased of you are a nice and neat frame, but I would not use any more of them, if they were furnished to me for nothing. Bees will fasten them, even where metal rabbets are used. Give me metal-cornered frames every time. I have about 1500 of them in use now, and never expect to use any other kind after this.

HARRISON'S DIPPING MACHINE.

When I made the first fdn. on the Harrison machine, I thought it would answer every purpose; but on trial it proved a nuisance. The bees would work but one side in most cases. I will send you the machine free of charge, if you would like to try it. It is of no use to me. I think more and more of the Given press every time I use it. I would not take \$100 for mine if I could not get another one like it. It is my opinion you have done friend Given an injustice by condemning his press as you have. I find the more it is used, the less the wax will stick. Try your press again, and have a little patience at first, and I think you will pronounce it one of the greatest inventions of the day for making fdn. in wired frames.

I. R. GOOD.

Southwest, Elkhart Co., Ind., July 12, 1880.

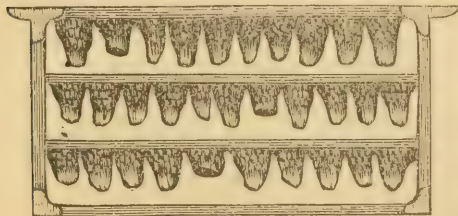
Many thanks, friend G. After such testimony, I suppose I must give up that my

trial of the Given press was not thorough enough. We make 8 square feet to a lb. and I am afraid I should not be satisfied with only 5. Our press did not have plates large enough to emboss the wax clear out to the full size of the inside of the frames. Do you let the bees build this out? or is your press larger? Worst of all, our sheets of wax would not stick to the wires but came off, and tore apart where the wires were, until I despaired of ever getting one nice sheet, such as the girls were putting in rapidly our usual way. I agree with you, that we must have wired frames. No accidents in shipping have resulted, even in hot weather, with them; but with the oldest and toughest combs unwired, we have had "bad troubles." If our friends do not make the "dipping" go nicely, I shall want friend Given to make me another press, but I want to pay more money for it, and have it just to my liking, and if possible, I would like it "broken in" before it is sent to me.

HOW TO GET PLENTY OF CHOICE QUEEN CELLS.

ANOTHER WAY.

PROCEED as directed on p. 322, July No., until you have cut the comb of brood into strips; but, instead of fastening the strips to empty combs, turn the strips up on their edge, and with a sharp knife cut off one side of the cells, down to the base or septum, as only one side can be used for queen cells. Now prepare an ordinary brood frame, by nailing in two or more top-bars as shown in the drawing. Having your strips of brood ready, together with some melted wax, set the frame with the top bar down, and put your strips of brood in place, fastening with melted wax, or passing a hot knife blade under them, so as to melt wax enough to unite the strips to the wood.



HOW TO RAISE GOOD QUEEN CELLS.

As friend Townsend has covered the whole ground, I will only say that I think this plan has several advantages: viz., we get as many cells from one frame as he does from three; we have no empty combs to handle or mutilate; these frames hang in the hive as an ordinary brood frame; the other frames do not have to be spread apart, as with his plan; three of these prepared frames can be placed in the centre of the brood nest, allowing the bees to get all around and through the cells; they have more room to cluster, keeping them warmer, and give us more cells in less space; the frames can be lifted out at any time with ease; we can "steal" out the larvae from cells not wanted to be finished, and hang the frames back quickly; by using—say 3 frames, we can keep a strong colony building cells quite a while, by giving them frames at different dates.

Columbus, Ind., July 5, 1890. JOS. M. BROOKS.

Thanks, friend B. Our neighbor Clark raises cells for us for 10c each, on a plan quite similar.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CINCINNATI.—Honey.—For several small lots of Comb Honey, we have paid 16c. Quotations for Extracted Honey are the same as for last month.

Bee-wax.—18 20c@25c per lb. on arrival.
Cincinnati, O., July 21, 1890. C. F. MUTH.

CHICAGO.—Honey.—No Comb Honey yet on the market worth mentioning. Prices are nominally held at 14c@16c, but will doubtless be much higher. Extracted, 60c@70c.

Bee-wax.—Prime choice yellow, 21c@23c; darker grades, 15c@17c.

The following from the editor of the *American Bee Journal* is just at hand:

The Commercial Reports of this morning give a few lots of new Comb Honey on the market, and quote it at 16c@18c, but it will be much higher yet; no doubt it will reach 25c@30c, unless the fall crop should be unusually heavy. THOS. G. NEWMAN.
974 West Madison St., Chicago, Ill., July 24, 1890.

ST. LOUIS.—Honey.—We quote Comb Honey scarce, and considerable inquiry at 20c@21c for nice, bright clover, in 1 and 2 lb. sections, and 15c@17c for darker grades in sections. Large packages comb not wanted at over 10c@13c. Extracted dull, but look for better inquiry with cold weather; salable at 8c@9c for bright, and 5c@7c for dark.

We will say to a great many letters asking what we give for honey, that "we do not buy honey at all;" we handle honey on commission alone.

July 22, 1890. R. C. GREER & CO.
No. 117 North Main St., St Louis, Mo.

NEW YORK.—Honey.—Best white comb, small, neat packages, 14c@15c; Fair, ditto, 12c@13c; Dark, ditto, 10c@11c. Extracted, white, 7½c@8c; Fair, 7c@7½c; Dark, no demand. Southern strained, per gal., 80c@85c.

Bee-wax.—Crude, 23c@25c.
New York, July 23, '90. A. Y. THURBER.

I took my first honey to Troy, the 10th inst. It brought 16c at wholesale, and 18c@20c at retail.

C. H. VICKERY.
Hoag's Corners, N. Y., July 12, 1890.

I would like to buy one barrel of Extracted Honey, white clover or basswood; I will pay 8c per lb. cash, delivered in Darlington, Wis. D. C. ABRAHAM.
Fayette, Wis., July 20, 1890.

I would like to buy a few barrels of choice extracted basswood honey, for which I will pay 10c per lb., if the quality is right. M. E. MASON.
Andover, O., July 14, 1890.

I want 500 lbs. of section box honey, not over 2 lbs. in a section, for which I will pay in cash 12½c. per lb., delivered at Ada, Hardin Co., Ohio. J. B. MURRAY.
July 19, 1890.

I have about 1,000 lbs. of Extracted Honey for sale; 500 white clover, and 500 linden honey. It is very thick and white. I will sell for 10c per lb. in 30 lb. or 30 gallon barrels, barrels thrown in. The barrels are waxed and painted. I have also some 500 lbs. of very white Comb Honey, all white clover, which I will sell for 15c per lb., at wholesale.

W. L. WOODWARD.
Salford, Ontario, Canada, July 8, 1890.

WHICH FRAME IS THE BEST?

WE see, in the GLEANINGS for July, that you advise every bee-keeper to get away with every hive which will not hold the standard Langstroth frame. We cannot let such a sweeping condemnation pass without protest. For about 12 years, we have had in our apiaries three kinds of frames,—Langstroth, Quinby, and American. The hives of each are side by side; therefore we have tried them comparatively and thoroughly, having as many as sixty at least of each style; and our decision is that the Quinby hive (old style enlarged) has given comparatively the best results; so much so that we continue to keep the other styles to fill the orders for colonies in those hives, but for our own use we have adopted the Quinby hive, keeping on hand the same number of the other styles, but increasing every year our stock of Quinby hives, stock which amounts now to more than 350.

You know, as well as we do, that the Langstroth frame is not fit for outdoor wintering. It is also too shallow for a good laying of the queens. Our Quinby hives, every year, show more brood than our Langstroth, and consequently give more honey. The queen, in a shallow hive, is more apt to go into the surplus chamber; and, lastly, the Langstroth hive swarms more. For more than 12 years, the number of natural swarms in our Quinby hives did not exceed 3 or 4 per cent; while it is impossible for us to control the natural swarming in our Langstroth hives. For all these reasons, we regret that a standard frame be indicated without any test as to its comparative merits; for the question is not, "Is the Langstroth frame good?" but, "Is it the best?"

We do not write this article to praise our wares, for we are not manufacturers of hives; but because we know by experiments, on a large scale, and continued during a great number of years, that the Quinby frame is ahead of all the others.

CHAS. DADANT & SON.

Hamilton, Ill., July 8, 1880.

Many thanks for your testimony, friend Dadant. It is of especial value, because it comes from one having had so many years of experience. Observe that you have the largest frame in use, or at least in common use. Well, I agree with all you say, unless it is your remark that the L. frame is not adapted to wintering; but while we hold on to all you have said, let us note the fact that our friend Doolittle goes point blank the other way, and uses the *smallest* frame known, and backs up the evidence that his decision is a right one, by making the best report of comb honey, right along, year after year, of any bee-keeper in the known world, excepting perhaps some cases from California, and I have good reasons to believe that friend D.'s locality is little if any better than the average. Do you not see, friends, that there are a great many sides to this subject? I have been watching the reports carefully and perhaps eagerly for years, and have been forced to the conclusion that I shall meet the wants of the greatest number, by advising a frame about midway between these two extremes in size. Neither Dadant nor Doolittle, if I am correct, use hives to any extent in a two story form. The greater part of the people prefer to have a hive that

can be used with two stories. In view of this, is not the rather shallow, L. frame best? To those who claim it is too shallow, I would point to friend Bingham and his good reports from a frame only *six* inches deep. Perhaps I might amend my decision by saying to all who have 100 or more good frame hives, to read what I said, substituting *their* frame for the L.; then, "wheel away" every thing else. I presume there always will be those who will succeed with the extremes, but I think the safer path, for the great masses, will be just where our old friend, Mr. Langstroth, settled down after his lengthy experiments.

USING OTHER FRAMES THAN THE LANGSTROTH.

Are you not putting it pretty strong on page 340, July GLEANINGS, in reference to other hives than the Langstroth? In 1874, I started building up an apiary, read GLEANINGS closely, and you then strongly advocated the Adair frame. Wishing to go with the majority in this matter, I followed, and pushed ahead fast and have 150 hives in good shape; and now the same teacher advises me to throw them all away or burn them up, when, at the same time, but few of the prominent bee-keepers of the east use the L. hive.

CHAS. H. RUE.

Manalapan, N. J., July 6, 1880.

I did not put it pretty strongly in regard to odd sized hives and frames; but I alluded principally to the A B C scholars, who deliberately start in with some patent or something of their own getting up, and different from those of anybody else. With the number you have all of one size, I do not know that I would advise a change, but I certainly would advise you to do just as I said rather than get new sizes into your apiary. It is true, I did, years ago, advise the Adair frame, but the advent of the *fdn.*, which I could not well foresee, obliged me to decide to go back to the Langstroth. If we want to use a hive two stories high, we do not want a frame deeper than the L., and I am fully satisfied that in no other way can we obtain so good results.

FARIS' FOUNDATION MACHINE.

NEW DEVELOPMENTS.

MR. ROOT:—The anxiously looked for July number of GLEANINGS was received last evening at about nine o'clock. The first thing read was your description of the new foundation machine which you told us about last month. As it was too late to commence a day's work, I had to content myself with reading the description, which I did several times. This morning, I set about making a machine, and, at three o'clock P.M., I was turning out as nice foundation as you could with your fine metal rolls.

Now the main object in writing this is to tell you of the improvement (or at least I deem it such) which I have made in the machine and manner of working it. Instead of attaching the strips of leather to prevent the plates from opening too far, and handling by the upper lid, I sawed out two strips of pine $\frac{3}{4}$ in. wide and $\frac{1}{2}$ in. thick, and about 6 in. longer than the width of the plates. Place one of these on each side, across the shortest way of the plates, and fasten them to the frames by means of

screws. This will furnish the plates with handles similar to the old fashioned fire bellows.

Take your plate by the handles and dip them one half or two-thirds their depth in the melted wax, and close them quickly. Lift them out of the wax, and, after allowing them to drain a few seconds, immerse the whole in a tub of cold water, etc. I remove them from the water to take the sheet of foundation out, as it leaves it much drier.

There, Mr. Root, you have the dipped fdn. without spattering, and you can work at it with never so much sawdust on your clothes, without fear of soiling them.

C. D. JOHNSON.

Lone Rock, Richland Co., Wis., July 3, 1880.

FROM FRIEND FARIS.

I have got the plate all right now. I make sheets without any splattering about it. I use only one box,—the small one. I know, if you just print it, the people will have it. I don't think you did me justice. You did not give the price. It consumes half my time, besides money, answering inquiries.

JOHN FARIS.

Chilhowie, Smyth Co., Va., July 10, 1880.

I gave the price in the June No., friend F., and I really did not feel like advertising it very much in the July No., I was so sure you would improve it, as you say you have done now.

THE NEW METHOD OF MAKING FOUNDATION.

In presenting the merits of any invention of exceeding value to bee-keepers, is it not eminently proper that credit be given to whom credit is due? I am led to make this inquiry, because I see that substantially the same plan for a fdn. mold which was submitted to you in a letter dated Feb. 18, 1880, is illustrated, and credited to another in July No. of GLEANINGS. In that letter, I described my invention as a *hinged mold* made of plaster of Paris from which fdn. could be made by filling with hot wax and submerging immediately in cold water bath. I even sent you at considerable expense, a small model of my mold with description of method of operating it; but I afterwards received information from you that it was broken in transit. With one of these molds, I have made all my fdn. this past season. Your reply to my letter was such as to give no encouragement to send a new model, and our correspondence was dropped. The invention was not dropped by me however, but, step by step, I have advanced in this "new departure," until, with pardonable pride, I may be allowed to boast that I am entirely independent of any fdn. machine in the market.

I do not wish to detract, in the least, from the credit justly due friend Faris, for working this thing out as far as he has. As you truly remark, he has well earned his money; for if he has spent half the brain work, time, and money on the invention that I have, he has really only been partially remunerated. I only claim priority of invention, and, if you keep your letters on file, you will see that claim is just. Friend Faris has received a pecuniary reward of which he is no doubt worthy; I have received no reward for my like patient labors, except the satisfaction of perfecting a fdn. machine that is not only in itself durable, but can be more rapidly worked than any other in use, and will make fdn. on wired frames.

My experiments with plaster casts for fdn. making, date back to 1877 and 1878. In Feb. No. of

GLEANINGS, 1879, p. 47, I describe a machine after which friend Given's fdn. press is apparently modeled (plaster of Paris cast excepted). My present machine consists of 2 sheet iron plates hinged together, and each perforated with 15 or 20 half inch holes. These holes are counter sunk on the outside. Their purpose is to securely fasten the plaster mold to the plates and prevent their warping which they would otherwise do. Of course the plaster runs through these holes as the molds are made and setting, and holds the molds firmly in place on the plates. I have never tried slate frames as you describe, but think they would answer nicely, if the slates were left in, and holes drilled through and counter-sunk in a similar manner. My molds were made from fdn., substantially the same as you describe, except that I used a 50c spray apparatus, instead of the mouth, for wetting the fdn.

I find it very important to have the plaster thin, and to have plenty of assistance, and still more important to have a stiff brush to work the plaster down into each cell. Now, the surface of this mold must be artificially hardened to resist wear, and it is done effectually in this way: The plaster surface must be washed with strong baryta (sulphate of baryta) water, and left to dry for 24 hours, after which it must be well painted with silicate of potassa (soluble glass), and dried 24 hours more, when it is ready for use. A hard, flint-like surface is the result.

TO OPERATE IT.

The mold, half opened, is placed on an inclined board, the lower edge of which rests on a pan of hot wax. The operator, standing back of the mold, with the right hand grasps a brush just the length of the mold, and with one quick sweep brings the hot wax in contact with the lower half of the mold, while with the left hand he quickly closes the upper half by means of a handle attached, and effectually drives out all excess of wax. The brush may be made of two whitewash brushes fastened together. The mold being closed, it is immediately passed to the cooling tank while a duplicate mold occupies its place. By thus using a pair, foundation can be turned off remarkably fast.

TO MAKE WIRED FOUNDATION.

I have three methods, each having advantages. The first plan requires the two halves of mold to be hinged with loose butts or hinges, and small enough to just pass inside of frame. The upper half is unhinged, the wired frame placed over, and the said half put in place again, after which fdn. is made as before described. To remove the sheet, the half has again to be unhinged. The second plan is to have a slot cut across the mold, just below the hinges (face side), large enough to accommodate the top bar of frame and allow the two halves to close. The ends and bottom bars are accommodated outside. The wires should lightly rest on the surface of the mold, and the fdn. be run as before described. The plan I like best is to run the fdn. with wires, and wire it into the frame afterward, leaving sufficient length of wires for that purpose. Little slots should be made in the edge of mold for the ends of the wires to rest in, so as not to prevent the closing of the mold completely. I give you these facts for what they are worth. I am sorry that I have been obliged to use so much of your space, but I simply crave justice, and aim to aid the bee-keeping fraternity all in my power.

W. G. PHELPS.

Common-Sense Apiary, Galena, Md., July 9, 1880.

Many thanks, friend P. A great many are now claiming they had invented Faris' plan before he did, and I think it very likely they did so; but, if anybody else ever made a full L. sheet by their plans, they certainly never sent me one. He sent me a whole half dozen or more of beautiful sheets. A great many samples and models were sent me, and I repeatedly reminded those who sent them that the \$100.00 offer was for a machine to make whole sheets. If anybody did this, they never took the trouble to send me one. A great number of you had *almost* got it, I know, but such is generally the case with nearly all great inventions. Friend P., your plan of using a brush instead of dipping the whole machine in melted wax, is a novelty indeed, and yet, strange to tell, the use of a brush for spreading wax on the plaster plates was given years ago on these very pages. I should be a little fearful that we would not get as even sheets made with a brush, as those made by dipping, still I may be mistaken. The invention is coming, but I think it destined to come through so many hands and brains, that it will be hard to tell who deserves most of the credit. You have very kindly given us many hints, friend P., and I am very sure we all thank you. I would like to see some full sized sheets, ready for the hives, made on your plan with a brush.

The Faris machine is the "Boss;" I have made one. L. W. VAN KIRK.

Washington, Pa., July 12, 1880.

The "Growlery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will talk right out. As a rule, we will omit names and addresses, to avoid being too personal.

I HAVE been looking for my May and June GLEANINGS for a long time, and have not received them yet. I don't like to be "played off" in that way, after I have paid the money. I thought that I would send you 50 cts. in July for the last of the year, if they come in time. If they don't, I won't send it. T. ROUND.

Rei, Ripley Co., Ind., June 27, 1880.

Gently, friend R. Did it never occur to you that we have no possible use for a number of GLEANINGS after it is printed but to send it to you, and that the great probability is that the trouble is not only entirely unintentional, but not our fault at all? In spite of all we can do, there are, every month, a dozen or two out of the 4500 who do not get their numbers. We always send them as "quick as wink," as soon as informed, even if one of you should lose it out of your pocket in going home from the postoffice; but too often we get unkind words for all our trouble and pains. As nearly as we can get at it, in your case, friend R., the trouble comes from your spelling your name so hastily we could not make it out. Our very bread and butter depends upon our getting the journal into your hands just as promptly as we can, and in just as good shape as we can, each month, and we should be stark mad if we worked so

hard to get it up and then keep it back purposely. I know patience is required many times, and I get impatient myself many times, and blame people who are doing the very best they can, I suppose; but shall we not all join hands and try to do a little better?

SAYING GOODS DID NOT COME.

Please send me that pound of worker fdn. I thought you would send it about the same time the bees came, but 2 weeks have nearly passed, and it has not come yet. I am in need of it now and must have it. FREDRICK HOLTKE.

Carlstadt, N. J., June 30, 1880.

In haste, I went to the clerks with the letter; they declared the fdn. was sent with the bees, but I told them that our friend could hardly be mistaken in such a matter. One insisted that he tied the box to the nucleus hives, and as a proof ran over to the express office, and got a duplicate bill calling for bees and box attached. I declared then that somebody must have stolen it, and, in pity for our poor friend who had been suffering all this time, I had another box got out, and despatched to him at once, by express, besides directing the express Co. to go to the expense and trouble of sending a tracer for the "stolen" (?) box. Now read this:

To-day I came across that board which you had put under those boxes of bees you sent me, and thought I'd take a look, and see what kind of soft material was in it; for I thought it was a cushion which you had put under those boxes purposely for saving too great a shaking by the journey. As I was going to use those thin boards I pried them off; and, to my surprise, I found that fdn. that I was waiting for daily. I would never have found it, but, it is a very convenient way of shipping. Please excuse my blunder, and my sending you another postal reminding you to send that wax. I will know better next time. FREDRICK HOLTKE.

Carlstadt, N. J., July 5, 1880.

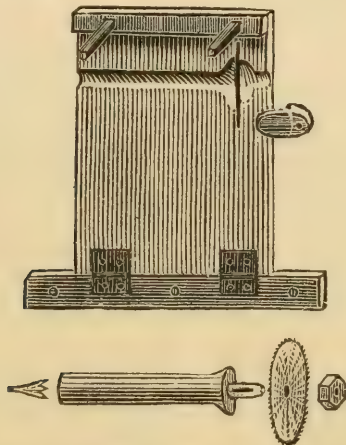
Did you ever? The poor clerks whom I had scolded had made the box so nicely, that our friend thought it was a "cushion!" He had ordered just that amount of fdn., and wanted it badly, but he never thought to look in that box. O dear, O dear! what shall I do? what *shall* I do? I might have some labels printed to paste on every box saying "This is a box of fdn.," or "This is a 'scissors'," and so on; but labels for all the different goods we sell would fill a warehouse, and the clerks might then paste the wrong label on the wrong box, and—I want to go off in the woods and rest, and I do not want any new factory; at least, I do not believe I want one this afternoon.

THE FORNCROOK PATENT.

It appears that friend Forncrook had been "allowed" a patent, but no patent had been "granted" to him; therefore he stated no untruth in his advertisement, even if his statement did mislead the uninitiated like myself. It certainly will not be worth while to take time or space to discuss the differences of two of our bee men. If they will shake hands over the matter and let it all drop where it is, I am sure our readers will all give them both credit for being gentlemanly and honest.

A HOME-MADE SAW MANDREL AND TABLE.

EDITOR GLEANINGS:—As many of your readers are of a mechanical turn of mind, and delight in operations of that character, I am tempted to send you a description of a simple attachment to foot-turning lathes, which I have found to be very effectual and convenient for sawing lumber. I think it will also further commend itself, especially to the boys, in the fact that it is very easily made. It consists of a saw mandrel and table constructed as follows:



BUZZ SAW ATTACHMENT FOR ANY TURNING LATHE.

The shaft is turned out of a hard-wood stick 10 or 12 inches in length, and about $1\frac{1}{4}$ inches in diameter, enlarged at the shoulder to 2 inches, and finished on the end, close to the shoulder, at an exact size to fit the saw. From an eighth of an inch from the shoulder the spindle must be turned a little smaller to fit a nut smaller than the hole in the saw. This is to allow the saw to slip on over the threads of the screw. A narrow longitudinal mortise is made through the spindle, a little longer than the nut is thick. Now slip the nut over the spindle tightly, and into the projecting end of the mortise pour melted type or babbitt metal. Have this almost or quite red hot so it will fill perfectly. You can now unscrew the nut, and a perfect thread will be found on both sides of the spindle. Now put on your saw and an even leather washer, screwed up tightly with the nut, and it will run like a top when put back in its original position in the lathe.

On the wall, back of the lathe, screw a cleat of inch stuff, and on this hinge the table, which must be of the right length to reach over the saw, and rest on the front of the lathe-bed on the legs provided for that purpose. A groove is cut on the under side to allow the table to come as closely to the saw-shaft as possible. Get the saw in motion and lower the table on it. Cut away the legs of the table and deepen the groove until it is solid and as low down as you can have it. When not in use, a button holds it in position against the wall.

A good 6 or 8 inch saw fixed in this way, with a heavy fly wheel, will saw inch stuff very readily and true. Fifteen seconds of time will set it running in your lathe, and ten seconds will be long enough to put it all up out of way.

G. A. R.

Sharon Center, O., July 8, 1880.

Many thanks, friend R. Your off-hand home-made saw arbor not only is ingenious, but I think will be warmly welcomed by our readers, as a thing of real, practical utility. The ingenious plan of getting it quickly out of the way is something I especially admire. One great objection to combination machines is the time it takes to "rig" and "unrig" them. We can surely be satisfied with "10 seconds" time. Such an arrangement, of course, would be most suitable for a cut off saw, or for ripping boards cut into short lengths; but, for that matter, any buzz saw to be run by a lathe, must be necessarily so, to a great extent. I have, in years past, made whole bee hives,—patent American hives at that—a pretty good "jog," on just about, such a machine. I had a great appetite for my dinner too, when dinner time came.

A NEW SCHOLAR'S TROUBLES.

FRIEND ROOT:—I feel like writing to you as though I was personally acquainted with you.

I sent about 4 weeks since for the A B C of Bee Culture, and have been perusing it pretty faithfully ever since, but must confess I am nearly as much in the dark as ever, as to the management of bees. I purchased me 2 hives last fall, for \$17.00. About the middle of June, they swarmed, not ten minutes apart, and were hived as I thought all right. One of them was a very large swarm, but I lost them both. That hurt pretty bad; not that I am a stingy man, I am too much the other way, so they tell me, but I am a great lover of bees. I am so anxious to learn how to manage them, and now I am put to my wit's end to know what is wrong with them. The strongest colony have been lugging one another out for a week or ten days past. One bee will pull another out of the hive and get out on the alighting board, and he will hold on with "might and main," and the stronger one will pull and tug at the other until he gets him loose, and away he sails off with him. If I only knew how to stop it! I am thinking they are young bees which are being carried off, but what they mean I can't tell. I don't see anything in your book about that kind of work or remedy for it. I often think, if you were not so far away, I would be most happy to come and see your beautiful bee-home, I imagine that it would be a great treat to me; in fact, I know it would. I very seldom write for I make so many mistakes. I am getting pretty well advanced in years; if I live until the latter part of next month, I will be 65.

THOMAS J. RICHARDS.

Union Grove, Page Co., Ia., July 5, 1880.

Thanks, friend R. The A B C will give you the best directions I know of for preventing new swarms from absconding. I fear you have not movable frame hives, or at least, if you have, you do not use them; but it would seem you should have them for that price. The bees that you saw lugged off were imperfect or deformed ones, and their comrades carried them off in spite of their "scratching gravel," and trying to hold on to the alighting board, because they would probably be of no use in gathering the honey or taking care of the young. The economy of the hive does not allow any mercy or consideration for misfortunes, and

they clearly have no idea of following Bible teachings, whether they know of any such doctrine or not. They love their neighbor exactly in proportion to his ability to make himself profitable to their little commonwealth, and no farther. But how come so many crippled and deformed bees? My friend, that is just what you are to find out, by opening the hives to see. If doctors could take out our stomachs, lungs, and hearts, and fix them and then put them back, what a fine thing it would be. Well, we can do this with a bee hive, and it is just what you are to do forthwith. Very likely your swarm is left queenless, and moth worms have got in; at any rate it is pretty surely worms that are crippling your young bees that the rest are lugging off. Getting Italians will fix the matter the best, but the A B C will tell you all what to do without Italians. Look through the hives, friend R., and study your A B C, and you will soon find it all plain sailing and easy, even if you do not come to see me, and are 65 years old. You can master it all, as hundreds have before, if you will stick to it and follow it.

OUR OWN APIARY, HONEY FARM AND FACTORY.

IT is the 7th of July, and, as we have showers almost every day, things are "booming" on the honey farm. Basswood has passed, but strong colonies of good Italians are making a fair business on clover, while the blacks and hybrids are trying to rob and steal at every possible opportunity. As Will is sick, Ernest is taking charge of the apiary, and he has said two or three times, "Pa, I wish you would sell or get rid of every black and hybrid bee on the place, and then it would be just fun to work." It is not such an easy matter to do this, for we are short of bees, and when blacks are brought here to be sold, it seems hard to make people take them back again, and where I can put an Italian queen right in the place of a black one, you know they will very soon be all Italians. Besides, every day some body is wanting a black or hybrid queen, and you know I always like to accommodate. Bees by the lb. is going to be the ruin of our apiary, if we do not, by feeding or something else, just "make our queens get up and dust."

The Simpson plants are higher than my head, and a few of them fairly in bloom. The melilot is in full bloom, and pretty fairly covered with bees; it is so tall it would hide a horse. The catnip has by far the most bees on it, and I would give quite a little money just now for a whole acre as well covered with plants as is our small plat. The spider plant is just in bloom, and I found that well known drop of honey, on almost the first blossom that came out. The bees found it too, for a bee came for the honey almost as soon as I did. Several hundred plants will now be in bloom soon, and then look out for business.

Seven Cyprrian and Holy Land queens were received a few days ago, and all but one are introduced safely. A few days ago Ernest asked me to try a colony that would

not receive a queen. I raised the mat, and took a look at the tops of the combs.

"Why, this stock *has* a queen," said I.

"It certainly has not," said he.

"Just you wait a bit," said I, and I took out a frame. It was filled with eggs. Another contained brood and eggs in all stages; and, on going through the hive, I found it contained a surprising amount of eggs. The fact was that the hive had contained, unknown to the boys, a virgin queen, and this queen had commenced to lay, and filled the hive with eggs, while they were trying to make the bees accept another queen. The last Cyprrian queen was found in the same predicament. There was a laying queen in the hive. How would such cases work with the plan of letting the queen out, without looking afterwards, as so many advise?

Well, the new foreigners look precisely like our usual Italians, or, if anything, a little smaller, and a little darker. Friend Jones was kind enough to mark all the queens from the Holy Land, after the district or locality from which they came. For instance, one is marked "Mount Hermon;" another, "West of Damascus;" still another, "Lebanon, North-east of the Holy Land," and so on. The bees that came with them looked like small, dark, old Italians; but, of course, we can judge better when we see them gathering honey. They will be closely watched, you may be sure.

July 12th.—The Simpson honey-plants are higher than my head; in fact, some of them are higher than I can reach. The bees are busy on them from daylight until dark, as they were last year, but, as yet, not in such great numbers. I presume our heavy and frequent rains have had the effect of making the honey thinner, and possibly of retarding the yield. The melilot clover is also higher than I can reach, and humming with bees, but I am somewhat disappointed in it. The bees do not commence working on it for at least two hours after they are on the Simpson and catnip, and then go so quickly from one plant to another that it seems to me they can not get much honey from it. With the catnip, I am perfectly satisfied. Our patch that is on the poorest ground is now in its second year, making a most beautiful mass of blossoms, and the bees are thicker on them than on any other plant on the farm, and they stop long enough to take a good long pull at every flower too. We are going right to work to enlarge our catnip plot, but I do not think I shall plant any more melilot. The spider plants are now coming into bloom, and I had quite a curiosity to see if that great drop of honey would reappear this season. They are down by the pond, and, as it was nearly dark, I knelt in the soft, black earth, so as to bring the flowers against the sky as a background. Surely enough, there it was,—a drop so large, even in the evening, that, had I jostled the stalk, it would surely have dropped off. I felt like shouting out in thankfulness. Dark as it was, a venturesome bee hummed around, but he could not see to make his way among those slender stamens so late. I was on hand next morning, and saw them drink their fill. I do not think the honey is as

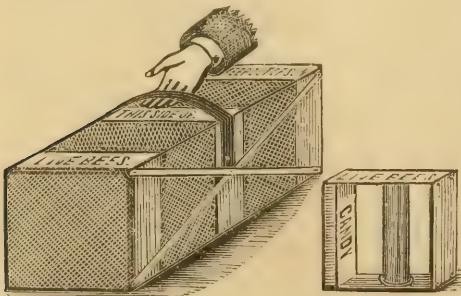
sweet this year, and possibly the new ground will furnish a larger quantity of juice, but not as sweet or of as fine a flavor, as is the case in growing sugar cane on soil too rich.

BROKEN-DOWN COMBS, AND WHAT TO DO WITH THEM.

In buying bees, as we have been doing, many colonies were brought in with broken-down combs; and, in transferring in very hot weather, we had some break-downs of our own. As this was right in the height of basswood, these combs were heavy and dripping with honey. Brood and all was down in a sticky heap. If moved or touched in any way, more bees would be daubed and killed, and the brood made worse. I finally directed that a second story be placed over the hive, and some clean combs, with one containing unsealed brood in the center, be hung in it. It was a success. The daubed bees at once crawled up on the empty combs above them, and then went back and licked up the honey, and stored it all above, around the one comb of unsealed brood. By night, the broken combs were licked off clean and dry, and the brood was in the best condition to be transferred into frames.

BEEES BY THE POUND.

July 19th.—Our efforts to raise the price of bees by the lb. seem rather unavailing, because it has been so long understood that, after July 1st, they were to be only a dollar; and, as every body sent me a dollar and no more, I decided we should have to stand to it, even if it was a losing business. Some of the best inventions I have ever made have been to get out of some "tight place," and so I argued in this case, if the people will stick to the old price, I shall have to study up some cheaper package, and some quicker way of getting the bees into it. The bottle queen cage has been a great success, and so I determined to make one on a large scale to carry bees. A good many want the cage made of sections shown in the cut in the price list, and so I made a cake of candy in a section, and had the tinner make a water bottle to reach from one side to the other, and just 1 inch in diameter. It has a division in the center, to make two bottles, so that if any accident should happen to the orifice of one, the other would still be open. About $\frac{1}{2}$ lb. of candy and $\frac{1}{2}$ pint of water is given to each section.

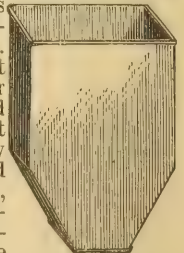


A SECTION CAGE PROVISIONED AND WATERED FOR SHIPPING BEES.

You may wonder why we do not use a section with honey in it, rather than to take so much trouble to fasten in sugar and water. Well, I do not think honey is as safe as sugar and water; it is more trouble to fasten it in the cages securely, and, most of all, it takes a great amount of hunting to find sections with just enough honey, and not so much as to cause it to break out and daub the bees. The girls can fix the sections as above, by the quantity, at much less expense, than to have somebody hunt over hives and honey; and the sugar and water is quite a little cheaper. One of these cages with a wire cloth cap on each side will hold 2 oz. of bees nicely. Two of them attached by a wire cloth band, such as I showed you last year, will hold $\frac{1}{2}$ lb., and the provision is good for a couple of weeks. Three of them, prepared in the same way, are good for 1 lb. of bees, and this is the way we have been sending them for some days past.

HOW TO GET THE BEES INTO THE CAGE.

The difficulty in doing this by moving the hive away, as I described last year, was what made the boys drop the plan. I went down into the tin shop and had a large square tunnel made. It was as long as a 20 inch sheet would make it, and large enough at the top, to take a frame of bees in easily endwise. The bottom was drawn up so it would go into one of our $4\frac{1}{2} \times 4\frac{1}{2}$ sections. I presume the tinner tho't I was just making another trap to be thrown away, and I confess I rather thought so too, I had made so many things I was sure would work, but which, when tried, would not do at all. Hurrah! It did work, for Ernest came in with his cage filled so quick, that it did not seem he had hardly time to open a hive. The bees just slide down the sides of the smooth tin, and then cluster against the sides of the wire cloth, without trying to get out at all. If you get in too many, as we often do, they have to be shaken to make them fly out until the finger of the "Favorite Scale" shows exactly a pound. The queen is caged as soon as the hive is opened, or is held by an assistant, and then put in the last thing, that there may be no mistake.



TUNNEL FOR PUTTING BEES INTO A CAGE.

INSERTING QUEEN CELLS.

We had a great number of queen cells to be put into hives, and but a little time in which to do it. I could only be spared outdoors, a half hour, and all the help I had was almost entirely inexperienced in such work. The queenless hives were marked by laying the slates on the top of the hives. I took the box of cells and a smoker, raised the cover and mat of a hive, moved two of the combs that contained brood a little apart, and, with my first and second finger, lowered the cell down right between the two walls of brood, while, with the other hand, I moved the combs up so as to press the cell just enough to hold it, being particular to have the brood that was attached to

the queen cell stand at right angles to the brood in the combs. After doing this, my assistant put on the mats and covers, and marked the slates. These cells hatched as satisfactorily as any I ever tried. Another lot inserted in the same way were not looked at for 18 days; at the end of which time, we got a nice laying queen from every hive, so far as I know. How much labor is involved in raising queens in this way?

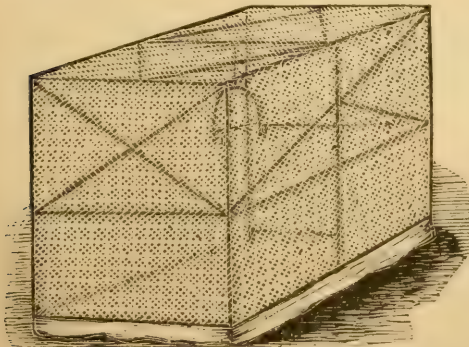
RAISING QUEEN CELLS; DOES IT PAY?

Neighbor Clark has just brought me 30 queen cells. I gave him the brood and he raised the cells, and returned them in 10 days. He made a single colony produce the 30 fine ones, in 10 days; \$3.00 cash for the use of a single colony just 10 days. What do you think of that? He did it on the plan given in another column, by friend Brooks.

Ernest declares that I do not sufficiently recommend the large sized smokers, in preference to the small ones we sell in such quantities. He uses a large sized Simplicity, and yesterday he used it from noon until supper time, without once filling or lighting. I used it after supper, and must confess that the large bellows, and large fire pot holding over a quart, were rather good things to have, with a large colony of hybrids. These hybrids, and some black bees kept by a neighbor, have been so troublesome when opening hives, that we should have had to stop work or ruin the apiary, had we not got out our wire cloth house again as we did last year. After Ernest had used it for awhile, he declared it made him too tired to carry it about from one hive to another, for you know, if you have your queens and pounds of bees promptly, we can not stop a minute, robbers or no robbers.

"Father, you just let me have one made of light pine strips covered with mosquito bar, and see if we can't have something that will do just as well, and not make one so tired to carry it."

"All right; tell Mr. Gray to make the lightest frame he can possibly, and have it strong enough, and give him the dimensions you wish."



FRAME COVERED WITH MOSQUITO BAR TO SET OVER A HIVE WHEN ROBBERS ARE TROUBLESOME.

In a couple of hours it was done, and the whole structure, finished complete, only

weighs 18 lbs. It is 5 ft. high, 3 ft. wide, and 5 ft. long. The upright pieces are $1\frac{1}{2} \times \frac{3}{4}$, the others, $\frac{3}{4} \times \frac{3}{4}$. The boys have two of them now, and they are just jubilant over them. The whole structure can be afforded for \$1.50 set up, or \$1.00 tied up in a bundle, mosquito bar and all. When you have combs or the stool in your hands, you can carry the tent as they call it, by putting your head under the top bar, and walking right along to the next hive. They have just added a wide double hook to the center to hold heavy combs while looking for a queen, or doing other work, and now they say they can fill orders no matter whether honey is coming in or not.

WORK IN THE APIARY FOR AUGUST, AND REARING QUEENS FOR THE MARKET.

Neighbor H. says he would rather raise queens in July and August than in June, for the reason that there is not so much honey in the way; and I do not know but that he is pretty nearly right. At this season we have an abundance of pollen from the corn and other sources, and if you have plenty of filled combs, your queens will find room more readily, than when the honey is coming in so plentifully. Well, my experience with our apiary for the last few weeks has convinced me that one smart man can take care of 300 colonies devoted to queen rearing, if he has metal cornered frames, and Simplicity hives. No colony is to have more than 5 combs; if there are too many bees for 5 combs, divide them. Each hive should at all times have unsealed brood in some stage. Queen cells or a newly hatched queen is to be given every stock as soon as a queen is taken out. In our apiary of late we have had about two laying queens a month, from each hive. Suppose you are to do only half as well, and you will have 300 queens per month, worth, at the very lowest, \$180.00. Your cells may be from the best stock known, almost as well as from the poorest. To take charge of such an apiary brains are needed I assure you, and the boy who expects to succeed at it should have a mental training equal to that of a college graduate. Such a thing as a fertile worker should never be known; and if one is found it should be considered a disgrace to the owner.

22d.—Strong stocks, both blacks and Italians are storing considerable honey from what I suppose to be the red clover, from the dark green pollen found on every laden bee, and also found in considerable quantities in the combs. Just now it looks as if a field of red clover might be of more value as a honey plant than Simpson or spider plant either, and it would be a great deal easier to raise. Although the patch of spider plants is now one of the most beautiful sights you ever saw, they are not yielding honey at all, as did the first that came out. The Simpson plants are doing a little better, but I fear we shall have to conclude that honey is a pretty uncertain commodity, in any plant or blossom. If the spider plant should "open up" again, I will let you know. I am very thankful, *deeply* thankful, that honey enough is coming so we do not have to do any feeding.

DEPOSITORY OF *Blasted Hopes.*

Or Letters from Those Who Have Made
Bee Culture a Failure.

THERE is no honey here yet for surplus, though there is a perfect sea of white clover, and perfect corn weather. It puzzles me to say what is the matter with the clover. This is the third season it has refused to "give down," without good or visible cause. It yielded honey later last year, and year before; and probably it will do so this year, after it has become older. J. B. COLTON.

Waverly, Bremer Co., Ia., June 25, 1880.

Well! I guess I must confess that I have 40 colonies of bees, and have not taken a pound of honey, though some have built comb in the sections. I have had only 2 swarms. In the day time, thousands of little bees, like sweat bees, are on white clover, and at night the linn-trees roar with the death-head miller. Besides, we have a poor honey season any how. Three years ago I sold, if I mistake not, 1600 lbs. of comb honey from 26 hives; and from 23 swarms, last year, about half as much per colony. Now, can any one tell me what my apiary will be next year? I am sowing ten acres of common buckwheat. I have not seen any bees away from home. There is no surplus. Was it intended that every farmer should raise his honey and do away with monopoly? Is this the cause? or do we worship our bees and neglect other matters more important? or is this a chance world? PETER JAMES.

Waveland, Ind., July 1, 1880.

Not a chance world at all, friend J., but, on the contrary, the very hairs of your head are all numbered. "Be not weary in well doing." You know the rest.

HOW TO BEAR DISAPPOINTMENT.

The crop will only average about 5 lbs. to the hive, and I had prepared for 100 lbs., as my bees were in splendid condition and the prospects were good early in the season; but we patiently submit to the ruling hand that is ever guarding us, and at the same time must keep a sharp eye to the outgoes, and bring the expenses within the income if possible.

Manalapan, N. J., July 6, 1880.

CHAS H. RUE.

That is right, friend R. Hold to the idea of saying "Thy will be done," when we have done the best we know how.

Bees are doing no good. I have not had a swarm this season. Clover winter-killed. Basswood "played." The low lands drowned. No more.

J. S. JACKSON.

Keithsburg, Mercer Co., Ill., July 1, 1880.

Wanted:—A conspicuous place in "Blasted Hopes," for a large share, if not all, of the bee-keepers in this vicinity. We have now had 2 years in succession without any swarming, and scarcely any honey. In this town, out of about 50 stocks, there has not been one swarm in the two years. The fore part of each season has been very dry, so that white clover, which is our main dependence, has been a failure. The last week has been wet, and clover is coming out some now; but it is too late to expect much from it this season. Only very few stocks are storing any honey in boxes, but seem in-

clined to get all in the brood box even to crowding the queen. Through the country, I have heard of now and then a swarm, but they are scarce. Thanks to the movable comb hives, I divided and doubled my stocks last season, and intend to do the same again this year. Some shook their heads when I said I was dividing last season; but I found that some which I divided then, are my best ones this year. From 30 stocks I shall not be likely to get more than 3 or 4 hundred lbs. of honey, and most all of that extracted, which I think I can get 15c for per pound.

HONEY PLANTS.

I have 100 spider plants just beginning to bloom, and about 800 Simpsons that the bees have worked on since the first of July. I have also about ½ acre of mignonnette, some of which is in bloom; but, on account of the dry weather, I have planted a good deal of it over the third time. I have also quite a patch of lady slippers, or touch-me-nots, which please the bees exceedingly.

A. A. FRADENBURG.

Port Washington, O., July 6, 1880.

My bees wintered well, not a single colony out of 22 having been lost, and they had no spring dwindling either, as a year ago; but, as strong as they are, I have got but very little honey yet, and not a single natural swarm. Several in and out of town lost all their bees; one has one stand left out of 7; another, one out of 5; and they were all strong and healthy in February. They died of starvation. An old Pennsylvanian by the name of Schaeffer invested \$40.00 in bees in 1878, engaged honey all over town last spring early, as he was afraid he would find no market if he waited till he had the honey. But there was no danger; he never got a drop,—not a taste for himself even, and he fed considerable sugar besides. Now he is minus bees also. He lives two miles out in the country, where they ought to have done well. Here is another candidate for your Blasted Hopes. He thinks he would rather raise "taters and cabbage" and fight bugs and worms.

GEO. L. HOLLENBACK.

Noblesville, Hamilton Co., Ind., July 6, 1880.

OBITUARY.

WITH sadness we note the decease of our friend John Hunter. Our readers, I presume, are already so well acquainted with him, through his kind and sprightly articles in our past volumes, that a lengthy explanation as to who he was will be hardly necessary. His book, and his writings on bees in the *Encyclopedia Britanica*, have won for him hosts of friends all over the world, and a general feeling of sorrow will prevail, that he could not have been spared to us a little longer. "Thy will, not ours, be done." As I came to my type-writer this morning, an envelope with a black border met my eyes. It contained a little card with the same black border, on which was the following: "This is the rest wherewith He causeth the weary to rest."

In Loving Memory

OF

JOHN HUNTER,

Who died at Ealing on Sunday, June 27th, 1880,

AGED 48,

Dearly loved and deeply mourned.

Interred at Kensal Green Cemetery, July 1st, 1880.

May God be praised that, as we have had the opportunity of knowing, friend Hunter was one who not only professed but lived the life of a simple, kind-hearted, earnest follower of our Lord Jesus Christ.

BEE BOTANY AND ENTOMOLOGY.

LOCUST.

THE black locust is a great honey producer here, and, during the two weeks it is in bloom, bees desert nearly all else to work upon it. The honey is white, and very nice and fragrant. The locust is easily propagated and a fast grower. In the spring, scald the seeds and plant in good ground where you wish them to grow, and in 3 years you may have a breakwind or hedge, and bloom for your bees.

J. E. JOHNSON.

St. George, Utah, June 10, 1880.

There are locust trees in this locality from 1 foot high to 2 ft. in diameter. They are very hardy trees, growing and doing well on almost any kind of soil. My bees worked on them nearly two weeks, and the roaring and humming in them was almost equal to that during linn bloom. They bloom here when 4 years old. The trees should be set out either in the spring or fall, and they would be almost sure to grow without any care at all. They will grow from 4 to 8 ft. the first year from the seed. I will furnish locust trees from 3 to 5 ft. high packed in good condition, on board of cars at West Line for \$4.00 per 100.

BUCK BUSH.

We have a honey plant here of which I see but little said in GLEANINGS; it is commonly known as buck bush. It is almost equal to linn and never fails. It grows anywhere, on any kind of ground in this country. I could furnish this for \$1.00 per 100, on board cars. Neither the locust nor buck bush need cultivation or coaxing to make a thrifty growth. The buck bush grows from 3 to 4 ft. high and blossoms almost from the ground up. The locust is the best timber known for posts, or for any thing which is needed to last a great while, either in the ground or out.

STONE-CROP.

Enclosed I send you a flower which grows here in a perfect mat on the hill sides, and ledges of rock. My bees have been working on it for the past week, and seem to get considerable honey from it. It seems to be a kind of moss and is called by some rock moss. Is that the right name for it? If not, what is it? and do you know anything about it as a honey plant?

O. A. HOAG.

West Union, Cass Co., Mo., June 6, 1880.

This moss is very beautiful, and I think will be quite an acquisition to our honey farm, if you will mail us a few roots, friend H. Prof. Beal to whom we sent your specimen, says it is *Sedum pulchellum*, a kind of stone-crop.

SOURWOOD.

I don't think sourwood could be successfully grown from the seed. Since you have mentioned it, I have noticed that most of the young trees are sprouts from the roots of some large tree. I suppose the sourwood could be furnished at \$3.00 per hundred, and the locust at \$1.00.

BUCKTHORN.

We have another tree here that, in my opinion, is more valuable than either of the above. They call it thunderbush here. I don't know what the proper name is. I send you a specimen. Please give the name. It grows about 25 ft. high, and blooms immediately after white clover begins to fail. If you should want some of them, I could furnish them

at about 50c. per hundred. With us it is better than the linn, as it blooms between white clover and sourwood.

C. E. KINGSLEY.

Greenville, Tenn., June 9, 1880.

This is *Rhamnus Carolinianus*, a kind of buckthorn. A few days ago [see buck bush on opposite column] you sent a specimen like this from another source.

W. J. BEAL.

Friend Corey, who gave us the cold blast smoker, sends some fine specimens of California honey plants with the following note:

Friend Root: I send you a few samples of honey plants. The relative value of them will be given when I have leisure.

J. G. COREY.

Santa Paula, Cal., June 6, 1880.

THE SAGES OF CALIFORNIA.

The first, he labels White Sage. It has a light, ashy colored foliage not unlike our common sage, and the stalk and blossoms are much like the picture in the A B C book. The foliage has a very strong aromatic flavor, not unlike common sage and pennyroyal combined,—a sort of a thyme flavor, reminding one, if he be at all imaginative, of both mountains and deserts.

No. 2, labeled Black Sage, is quite a different plant, and partakes more of the nature of our woods balm, both in taste, and in stalk and flower.

No. 3 is labeled as a cross between the black and white, and its looks strongly indicate as much. The flowers grow in more separate knobs, like the black.

No. 4 is labeled a hybrid, cross between the white and purple. It is the most beautiful plant of all. The flowers have such a very strong aromatic flavor, that one is almost sure he has a lump of camphor gum in his mouth, when tasting it. The stalk of this is more nearly square, like the mints, while those of the previously mentioned varieties are round or nearly so. After tasting of the flowers of these plants, one can scarcely wonder at the remarkable and exquisite flavor of the California honey.

OTHER CALIFORNIA HONEY PLANTS.

No. 5 is labeled wild Alfalfa, which is quite like the Alfalfa growing on our grounds, only the flowers are yellow, instead of blue.

No. 6 is labeled Soap Plant, and in taste it is not unlike soft soap. Tasting of things has been one of my favorite ways of analyzing; I presume I acquired the habit very early in life. I wish somebody would tell more about the soap plant; I am satisfied it is not made to eat.

No. 7 is marked Chimesal. It looks like an evergreen, but has a profusion of clusters or masses of white flowers. The skin seems to be off my tongue, but I don't know whether it was soap plant or chimesal that did it. I think I won't taste of any more Nos.

Please give common and scientific name of enclosed honey plant.

C. SHERRICK.

Shawneetown, Ill., June 25, 1880.

Prof. Beal, of Michigan Agricultural College, to whom we sent the specimen, names it *verbena stricta* (mullein verbenas). He remarks that most or all of the verbenas are fine bee plants.

I send 3 different kinds of bee-killers. No. 1 is an insect that will catch a bee while on the wing, then fall to the ground and eat out the inside of it. No. 2 is an insect which is generally from 1 inch to 1½ in. long. It catches a bee on the flowers, or where the bees water. They will watch a bee just as a cat watches a mouse. They will grab the bee by the wing, and bite it off, then kill and eat it. No. 3 is a bug which will catch bees wherever it sees them, even at the entrance of the hive. It will kill them and suck their honey.

JOHAN JACKEL.

Bell Plain, Wis., June 14, 1880.

No. 1 is the bee hawk, *Anax Junius*. This large dragon fly or darning-needle is widely distributed in the United States. Like all of its family, it is very predacious, and is so savage that it dares even to attack the bee.

No. 2 is a rose beetle of the genus *Staphilin*. There are many species of these beetles in all parts of the United States. They may be told by their short wing covers. They usually feed on dead animal and vegetable matter. I should not be surprised to see them devour a dead bee, but should be surprised to see them kill a bee.

No. 3 is *Sylpha marginatus*, a flat beetle, nearly as wide as long. This too is a scavenger beetle. I have never seen any of them attack a live insect. They feed on dead animals.

PROF. A. J. COOK.

Agricultural College, Lansing, Mich.

BOMBYLIUS MEXICANUS. ALSO A GREAT YIELD OF HONEY FROM MONARDA ARISTATA.

Prof. Cook:—Enclosed find three flies which I send to you that you may tell me more about them. They are thick in my apiary, and look suspicious. They make a sharp, drone-like, buzzing noise on the wing, and stand near the entrance of hives on wing, a la humming bird. I have never seen them depredate upon anything, nor do I ever see them at work, which arouses my suspicion. As many as a half dozen will buzz and peep into the entrance of the hive at the same time, and not more, at times, than an inch from the bees. The bees do not seem troubled at their presence.

I also send you a specimen of our best honey plant. We call it here wild mint. It yields very abundantly of excellent, light colored, thick honey, beginning about the middle of May, and ending last of June,—say 5 weeks. It grows spontaneously here, and best where the prairie grass has been burnt in the summer, or otherwise destroyed. I think it will grow anywhere, and the seed are easily gathered. They are about the size of turnip seed. There are several varieties, some more productive of honey than others. This I send you is the best. Bees refuse to work upon Indian corn while this mint is in season. In fact nearly all of my honey is from the mint, and I have several hives which have already yielded 100 lb., at two extractings, and are ready again for the third. Answer through GLEANINGS, and oblige—

J. L. CALDWELL.

Marlin, Falls Co., Tex.

The insects sent by Mr. Caldwell are referred to on page 32, of my Manual. They are *Bombylius Mexicanus*, Weld, of the family *Bombyliidae*, and order *Diptera*. These two-winged flies illustrate mimicry, as they closely resemble bees, though their darting flight and noiseless poise are quick to remove the deception. Their long proboscis is another

bee-like characteristic. These bombus-like flies have long been known to be parasites on wild bees—to lay their eggs in the nests of wild bees. The maggots which hatch from the eggs feed on and destroy the young or larval bees. From the above it would seem that *B. Mexicanus* practiced the same on our common honey bees in Texas. Probably if Mr. C. examines, he will find these parasitic larvae in his hives. He will do me a favor if he will wrap a dozen or two in cotton and mail them to me in a strong box.

The plant is *Monarda aristata*, nearly allied to our bergamot of the north, *M. fistulosa*, which is also a fine honey plant. In fact, few families of plants do more for the bee-keeper than do the mints.

Lansing, Mich.

A. J. COOK.

HOW TO REALIZE THE MOST MONEY, WITH THE SMALLEST EXPENDITURE OF CAPITAL AND LABOR IN THE CARE OF BEES, RATIONALLY CONSIDERED.

QUEENS AND BEES, OR HONEY?

I SEE in GLEANINGS that your friend, H., says it doesn't pay to sell young Italians for \$1.25 per lb.; that it spoils his whole apiary for queens, honey, or anything else; and you remark that, if his apiary is spoiled, he has the money for it in his pocket, &c. Very likely H. expects, or wishes, to continue with his apiary, and if he spoils or weakens it so much that he can't rear queens or get any honey, surely it will be in bad shape to winter, and worse next spring. It seems that he don't believe as the old lady did, who had the goose that laid the golden eggs. If you will turn back to the first copy of GLEANINGS, Jan. 1, 1873, you will find the following heading: NOVICE'S GLEANINGS IN BEE CULTURE, or How to Realize the Most Money, with the Smallest Expenditure of Capital and Labor in the Care of Bees, Rationally Considered. In those days the little GLEANINGS of only eight pages was called by some, "Smoky Paper" and "Elephant Eggs;" but GLEANINGS has outlived it, I believe.

Now, under the above heading, I would like to ask this question: How are we to make the most money with our bees? Is it made by selling bees and queens and working for increase, or by working for honey? I think this question could be talked over, and figures and facts given that would benefit all your readers. There may be some who will not care to say much either way through selfish motives, but I think they will be very few. Could not you, or some of the older "hands" who have had experience in working bees both ways, give us some figures on this question? For instance, A and B are neighbors; both commence the season with 40, 60, 100, or any number of colonies equally strong; in fact, everything is equal; both pay the same prices for hives, frames, &c., and both get the same price for sales, as far as honey goes of course. We will suppose they run for 3 years, both succeed in wintering without loss, and that A works his apiary for bees, queens, and increase, and B works for honey, box or extracted, whichever brings him the most money; we will suppose also that A finds ready sales at present prices for his queens and bees, and the same with B for all the honey he sells, or gets to sell, and that both have good honey seasons, &c. Which will have made the most money, at the end of

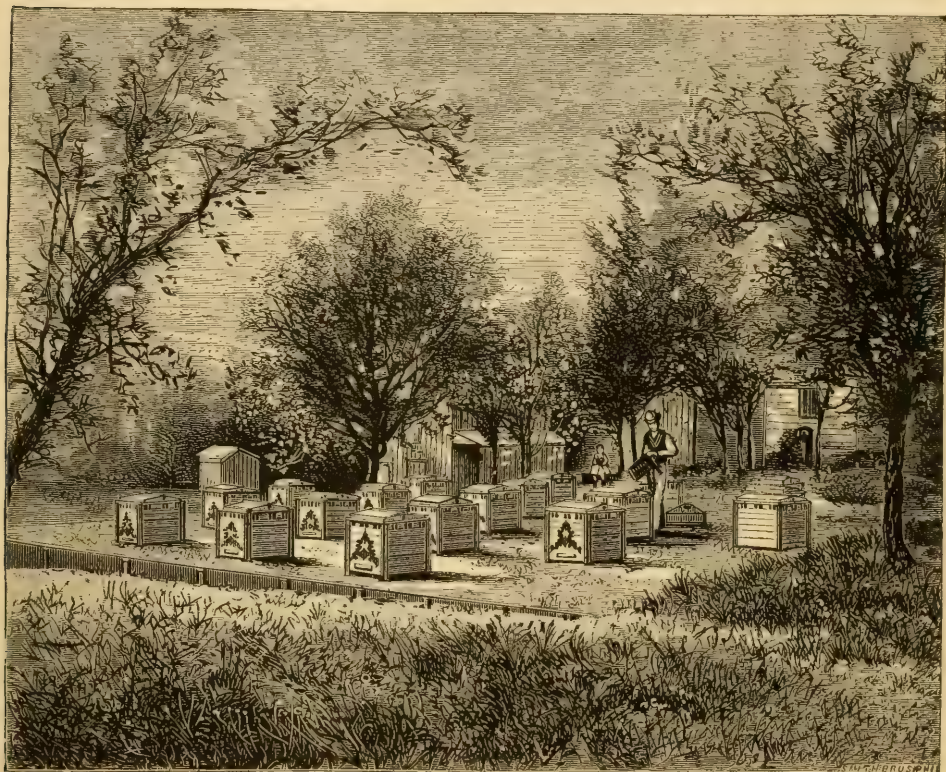
the time, valuing stock on hand as at the commencement?

I have had no experience in working an apiary for honey, but know a little about A's side of the house, and would not be afraid of losing my old hat, that B will "get away" with A on short notice. Both parties keep pure Italians, which are to be valued at the same per colony, the first and last year. Now who will give us the most light on the question?

JOS. M. BROOKS.

Columbus, Ind., July 6, 1880.

In fixing the prices on queens and pounds of bees, I have tried very hard to decide the very question you take up, friend B., and, although there are some who say I have put the prices too low, I think, all things considered, they are not far out of the way. We can raise bees and queens without any trouble, when we could not possibly raise honey at all, and, since the advent of grape sugar, we can do it too with but little expense comparatively.



HEXAGONAL LAWN HIVE APIARY, OF NINETEEN HIVES, BELONGING TO N. H. ALLEN, KIRKWOOD, MO.

ALLEN'S LAWN HIVE APIARY.

I MAIL you with this the promised photo of my apiary, and hope you will like it. The view is taken from the east side. The first two rows of hives and the two end ones of the third row face the house, or west, and the rest face east.

N. H. ALLEN.

Kirkwood, Mo., May 29, 1880.

I know from personal experience that you are happy in that apiary, friend A., for it evinces work and study. When the grass is nicely mown with a lawn mower, every unsightly thing picked up about the premises, and the Italians busily going out and in with loads of pollen and honey, I do not know of anything that can conduce more to one's happiness than such an apiary. And when you can feel that it is all your own, even to the very ground the hives stand on, it gives a thrill of honest, innocent pleasure, that is

about as much as one ever feels here on this earth. There is one important feature in the photo, however, which our artist has left out, although it was in my mind when I wrote the above description. It is baby in a pretty little carriage, with its mother standing near by, and the two are but a little distance from our friend, in a way which indicates that they, too, have an interest in the pleasant little ground and its surroundings. I wonder how many such tidy, cosy, little apiaries there are that have sprung into existence since the A B C was set afloat to do its work among the people. I had hoped and planned that such things should become an ornament and joy to your homes, and, my friends, you can hardly know how deeply I thank God, that he has blessed this work, and that it is now becoming more of a reality than I had even dared to hope.

A "VISIT" FROM A LOUISIANA A B C SCHOLAR.

MR. A. I. ROOT:—I think it was in April No. of GLEANINGS that you told us, when we did not want our letters published we might make them as long as we liked. Now, I don't know how long I shall make my letter, but I am certain that if I had you cornered up in a tight room, I could talk you nearly to death. Before I left Saginaw City, Mich., for this place, I lived near a friend to whom I wrote that I was going to keep bees. In his answer, he told me that he would make me a present of GLEANINGS for one year, as he thought I could not get along without it, and also advised me to send for the A B C book. Well, GLEANINGS comes promptly every month. I sent for a Simplicity smoker and A B C, both of which came all right, and without which I should have been sadly behind where I am now. I never owned a hive of bees before, and started out with 30 box hives. The mice destroyed one, and I now have 59. Oh, what a time I have had! I have taken swarms out of trees fifty feet high. (By the way, when you see friend N. N. Shepherd, please tell him that I owe him something for his idea of the swarming box. It is a fine thing.) When 12 swarms came out at once and clustered, 10 of them in one bunch, didn't it make things lively for the "boy"? But I saved them,—every bee.

I think, sir, that you are doing a great deal of good, both in teaching us how to keep bees and also in teaching us how to live. Oh! you don't know how glad I was when I got my first copy of GLEANINGS and saw that it contained such matter as Our Homes.

All things considered, I think I am getting along pretty well, but, like others, I have done a great many wrong things.

MISTAKES OF BEGINNERS.

Like one of your correspondents, I put my first frames in so that the bees made the comb from corner to corner, and many other like foolish things; but what did I know about comb-guides and such? If I had had to feed my bees, I am pretty sure I should have done as my companion in ignorance did. I mean the one you told of who poured the hot candy into the cells of the comb. I reckon there are many such things happening that the perpetrators never tell of. I know a man in Michigan who sent to you for an Italian queen, went and put her in the hive of blacks, and, of course, the queen "died." The second and third one "died" also. (You see he was persistent). At last, by the time the fourth arrived, he had learned that there was a *formal* introduction required. Why not send with each queen a small leaf of instructions how to introduce them,—something like the instructions you send for using a smoker? A "basswood" man would know how to use a smoker as soon as he saw it; but my friend would have been putting queens into that hive till the present time, providing your stock held out, if he had not fortunately learned that there is a way to do it. Well, we will all try to improve and help one another.

I suppose I shall have a big time extracting when my extractor comes. I have 20 box hives and gums that I want to extract and transfer, besides my hives with the frames fast, and if you did not send a machine to extract pieces of comb, I wish you would send one.

DEEP OR SHALLOW FRAMES FOR "WARM CLIMATES."

I use a hive made Simplicity fashion, but use the American frame. People told me it was better for a "warm climate." Since I have got too far along to change just now, I have seen others who use a frame the same length as L. frame, but only 7 inches deep, because it is better for a "warm climate."

I think I have 30 lbs. of wax now, but my wife is sick, and my little cotton field, with my cows and bees and housework, keeps me pretty busy, and I have not got it melted up, except 10 lbs. which I got out of a tree in the woods (pretty good yield, I think). I have 3 more trees to cut. I wanted to save my wax and have it made into fdn., but I shall never be able to make my hives and frames without a little buzz-saw, and I will get along without fdn. this summer by putting one empty frame between two combs.

NEED OF AN INDEX.

Now about that index in GLEANINGS: I need it very much. For instance, when my 10 swarms were in a bunch! was short of hives; so I took a pork barrel that had one head out, knocked out the other, covered it with a board, took a six-quart milk-pan and carried it five times full of bees, put them into the barrel (having first caged a rescued queen and put in), then fastened it up so that not a bee could get out, and kept them closed for 20 hours. When I opened it they had gone to work, and now have nearly a barrel full of comb. Now, when I put them in there I only intended to keep them there until I could have time to think. I did not know what I should do with them, but I remembered having seen the question in GLEANINGS, "What shall I do with a barrel of bees?" and rested quietly in the faith that everything would be explained there. Well, how do you suppose I ever would have found it without the index? I found it, but, lo and behold! there was no information for me. Never mind; I'll work it out some way, and, in the mean time, give us the index, and at the end of the year give us the contents of the volume, and send us your bill.

Please tell the readers of your A B C book how to have the bees make straight comb without fdn., and it will call down blessings on you. I bless you for it, even though it came to me in a late number of GLEANINGS, after I had the frames of a dozen hives all fastened in tight, so that I shall have them to transfer.

"Get stung much?" O "scissors"!

The first swarm I had was a double one (two clustered in one bunch). I had just got my book, and had not read much—just enough to find out that Mr. Root does not consider veils of much use, or at least not a necessity; and, as I can only afford necessities, I went for my two swarms, and, dear, dear! as quick as I stooped to place my hives, 700 of them (as nearly as I could guess by the pain) took me all over the face, neck, and hands. I thought, just for a moment, that if I only just had Mr. A. I. Root there, and could see to get hold of him, and hold him right over those swarms, I would be willing to suffer with him. But the bees were hived, and hived without veil or gloves (my bees are all common), and I agree with you, that if a man has neither veil nor gloves, he will soon learn that he does not need them.

SETTING A SIMPLICITY UPPER STORY OVER BOX HIVES.

Don't get mad now. Here comes another: Several times you have told us that we could set our new

frame hives over boxes or gums and odd-sized hives, and eventually work into a uniform size of frame hives. I fixed several hives that way three months ago, and only "mud-daubers," hornets, and spiders made any use of the top hives until, in May GLEANINGS, some unfortunate fellow writes for information on the matter, and you tell him to take the top of the old hives all off. I threw down my book, ran out, jerked off the top hive, tore off the top of the old hives, fixed the frame hive on top, and the bees had comb in the frames the next morning.

MAKING THINGS PLAIN.

Now, although it seems that telling us to put the frame hive on top ought to be enough, still many of us would think that a large auger-hole is a sufficient opening into them until we lose the use of a swarm of bees for a month or two; and I will wager that friend Tanner (p. 279, June No.) will make the same mistake, if he did not happen to see your reply to friend Bailey, in May No., p. 233.

Well, Brother Root, one more thing and I am done. I am trying to be a Christian. Please pray for me, that I may grow in grace. I find more difficulties in a Christian life than I do in bee-keeping, and that is a good deal. Our Homes is good for us all.

C. H. BUTTS.

Collinsburg, Bossier Par., La., June 23, 1880.

The above letter, written evidently with no thought of its being used for publication, illustrates a very important matter. A lady who is one of our most talented writers in bee culture, once wrote me an article for print, and sent with it a most kind, chatty, visiting letter, *not* for publication. Well, I knew at a glance that the studied article for the public had not a quarter of the real value to the masses, and real merit, that the off-hand home-like letter had; and who has not seen ministers, that, in their pulpits, seemed so far off and so high up, that one was chilled and made to feel lonesome, but who, when they got down from their pulpits, were the pleasantest, most sociable, and home-like people in the world. I have several times told our minister that I could not help wishing he would come down among the people and *talk*, instead of *preaching* so much. The above letter has helped me greatly, in many ways, and I have no doubt but that it will help many of you.

Friend B., I would get 5 queens, and give one to every painful of bees in that barrel, and, with frames of wired fdn., I would soon have them to suit me. I fear your smoker was not right at hand, and in good trim, when you got stung so much that day. —We have assuredly put a leaf of directions with every queen we have sent out for years past; but I have learned that a great many of you never read it. One friend said he looked at the directions after his queen was lost. He noticed the little paper on the cage, when he first got it; but said he supposed we tacked it on to stick the postage stamps on.

THE DZIERZON THEORY.

THE following may be of interest to those who have been troubled to accept the fact that drones are brought into life without the agency of a father:

EXTRACTS FROM JOSEPH COOK'S BIOLOGY.

"Generation by fission and gemmation are not confined to the simplest forms of life. Both modes are common, not only among plants, but among animals of considerable complexity."

"Throughout almost the whole series of living beings we find agamo-genesis, or non-sexual generation. Eggs, in the case of drones among bees, develop without impregnation."—(Huxley in *Encyclo. Brit.*, Ninth Ed., *Biology*, pp. 686, 687.)

[After a pause, Mr. Cook proceeded in a lower voice—]

"When the topic of the origin of the life of our Lord is approached from the point of view of the microscope, some men who know not what the holy of holies in physical and religious science is, say that we have no example of the origin of life without two parents. There are numberless such examples. 'When Castellet,' says Alfred Russell Wallace, Darwin's coadjutor, 'informed Reaumur that he had reared perfect silkworms from the eggs laid by a virgin moth, the answer was, *Ex nihilo, nihil fit*—from nothing, nothing is made—and the fact was disbelieved. It was contrary to one of the widest and best-established laws of nature; yet it is now universally admitted to be true.'—(Wallace, *Alfred Russell, Miracles and Modern Spiritualism*, p. 38.)

"Among our honey-bees," says Hæckel (*History of Creation*, Vol. 1, page 197), 'a male individual, a drone, arises out of the eggs of the queen, if the egg has not been fructified; a female, a queen, or working bee, if the egg has been fructified.'

"Take up your Mivart, your Lyell, your Owen, and you will read this same important fact which Huxley here asserts, when he says that the law that perfect individuals may be virginally born extends to the higher forms of life. I am in the presence of Almighty God; and yet, when a great soul like the tender spirit of our sainted Lincoln, in his early days, with little knowledge, but with great thoughtfulness, was troubled with this difficulty, and almost thrown into infidelity by not knowing that the law that there must be two parents is not universal, I am willing to allude, even in such a presence as this, to the latest science concerning miraculous conception."—F. H. Burbank in *Herald of Life*.

THE YUCCA, OR SPANISH BAYONET.

TEA-CUPFULS OF HONEY.

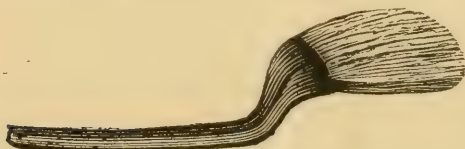
I SEND you by mail a few brushes, such as we get manufactured in Cal. I use them for brushing bees off from the combs, and think they are just the nicest thing I have ever seen for that purpose. I used to use a wing; but since I found these brushes, I have discarded wings altogether. If they get stiff with honey, just dip them in water and they are perfectly soft and pliable. You see we have the handles made crooked so as to be just right for brushing bees off from the bottom of the frame, and they are bound in such a manner that they can never come to pieces by shrinking or swelling. There is a patent on them, but no danger of any one's ever trying to infringe upon it. Can you beat these brushes in Ohio? Now for a brief description of how they are obtained: They are the lower or butt end of the leaves that grow next to the bulb of the Maskel Stalk, or, as it is sometimes called, "Sentinel Stalk." This plant attains huge proportions in desert like sand-washes of this valley. I have seen them attain a height of 20 feet, with a diameter of six inches, above the bulb, or two feet from the ground, while the bulb would be twelve inches in diameter. All this stalk above the bulb grows in one season,—yes, in about *six weeks*. All the leaves they have are those long, sharp, spiky leaves growing around the bulb, and sometimes called "Spanish Bayonets." The stalk throws out lateral branches or twigs all around, and close together, commencing about six feet from its base, with short twigs, which gradually attain a foot or more in length, half way up to the top, then taper to a point at the

top. All the laterals are covered with a dense mass of white flowers, which, together with its perfect symmetry of form, not only make it look very beautiful, but standing up as they do far above all other brush give it the appearance of gigantic white plumes, standing here and there like giant "sentinels" on the desert. The section of stalk I send you was cut out of an ordinary sized stalk only, about four feet from the ground. It is these last year's stalks that I use in my new smoker which came to hand all right. I thought at first I was not going to like it, but I have changed my mind. I left two or three of those brushes or leaves just as they came from the stalk, so you could see how little trimming has to be done to them to make them into brushes ready for use.

CHAS. BRIDGES.

San Fernando, Cal., May 27, 1880.

The samples sent us are most beautiful brushes, and it is hard to imagine that they grew and were not made. The section of stalk sent us is actually $4\frac{1}{2}$ inches in diameter, and although you would think from the looks outside that it might be a section of a white oak log denuded of the bark, this miniature saw log only weighs 9 ounces. It is so light that one, on taking it up, is almost startled. By looking closely, you will see where the great leaf stalks have been pulled off, if I am correct, and it is these that make the curious little brushes. As the brushes are very soft and of vegetable fibre, instead of animal, it seems to me now that they are destined to take the place of feathers and everything else, for brushing off bees. If friend B. can get so many, I would like him to tell me how low he can furnish me 1,000. They are so light, they can probably be sent as cheaply by mail, as any way. They are so much of a curiosity, that I have had our engraver make a cut of one of them.



BRUSH FOR GETTING BEES OFF HONEY COMBS.

You will remember that I gave you a picture of a yucca, or Spanish bayonet, on page 137, June No., last year. If I have made no mistake, this plant is one of the same family. We have one now in bloom in our garden, but it is only about 4 ft. high, instead of 20, and does not as yet bear any honey at all. I presume it is because we have not got the right variety, the fruiting yucca; the great difference in climatic influences may also have much to do with it. As one looks upon the gigantic specimen of stalk sent by friend B., he almost unconsciously wanders in imagination to the land where it grew, and I mentally figured how many dollars I would give to leave my busy cares for a while, and wander in that strange land, and stand at the foot of one of these specimens of nature's handiwork, the sentinel of the desert. "How wondrous are thy works, O Lord."

BRAINS vs. MACHINERY.

THE FORMER NOT ALWAYS TO BE BOUGHT WITH MONEY.

THANKS for your book on bee culture. I celebrated the Fourth (or, rather, the fifth) reading scraps of it here and there—"gleanings" that I found most fascinating reading. I have a way of marking, on the fly-leaf of a book, the pages I wish to refer to. The first page marked in this is 121, where you publish Barnes & Co.'s letter. Your comments are timely, and exactly to the point. Three or four years ago I bought one of their combined circular saws, with set of cutter-heads, etc. I had no difficulty in setting it up all right. It would spin beautifully, and I thought I had found a foot power that would fly through flint rock if necessary. I began feeding the saw with a piece of dry, inch pine, when it almost instantly wedged up, or faint-ed, or something. At any rate, it would not saw. I turned to the circular for relief, and found that Barnes & Co. distinctly avowed that they sold *saws*, but not *brains*. This struck me as severe; but then, I thought perhaps they hadn't enough for home consumption any way, and I would apply to some of their customers who were referred to as recommending the saw. They promptly supplied the "brains" that Barnes & Co. couldn't spare, and I found that the buyer was supposed to be mechanic and machinist enough to file and set the saws, and put things generally into working order, while I was demented enough to suppose that the machine would come all ready for business. In my case, having a fancy for tools, the saw was wanted for the pleasure of using it only; but the years have slipped away, and I have never had a chance to have the machine put in order, or to learn how to do it for myself. Now, had it come to hand *ready*, just as you describe the planers on page 122, it would have been set up, always at hand; I would have resorted to it frequently, and many of my friends would have had their attention called to it with results beneficial to the makers. You are emphatically right. The manufacturer, in any case, must not rely upon the buyer's brains, but use his own so clearly that he needn't depend upon his customer's having any.

F. A. WHITING.

Dunellen, N. J., July 6, 1880.

There is much truth in what you say, friend W., but I fear you put it a little too strong. Machinery that is perfectly adjusted and in working trim, when sent out, does much toward lessening the necessity of brains it is true, but brains and care are needed to accomplish any really good result in this world, if I am not mistaken. Another thing: few perhaps know what it costs to get trained hands that can and will keep machinery in nice working order, every time, year after year. We have a Barnes saw, in fact, two of them, that we are using all the time in the wax room, but they are very rarely in nice order, when I want to use one. The spring is too weak to throw the treadle up, the saws are not set enough, or the operator does not let the treadle rise clear up as he must do to accomplish anything. Have charity, friend W., for poor careless humanity, and let us all try to do better.

GIVING PLAINER DIRECTIONS FOR A B C SCHOLARS.

I RECEIVED the fdn. and wire promptly by express. I was anxious, having waited till a late day before I decided to furnish my brood chambers with fdn., and went to the office frequently expecting bees to swarm.

DO BOXES RETARD SWARMING?

But I had only one swarm, as my bees swarmed late this season. I followed directions, and when bees began to hang out, put on the caps. The result is I have a fine lot of cap honey, but whether supplying caps, retards swarming I do not know, nor much care, for I keep bees mainly for profit, and try to make them pay their way. But bees are swarming finely at last, sending out large colonies, and leaving plenty of bees in the parent stock.

At the risk of being prolix I must say a few words about fdn. It may be you will put this in the Growlery, or, perhaps, under the following caption:

INEXPERIENCE; ALIAS STUPIDITY.

If I am not mistaken, in your directions for fastening fdn. into the wired frames, you say nothing about fastening to top bar; so I merely rolled it in according to directions as I understood them. The result was I lost a large swarm of bees, as follows: After putting them into the hive filled with fdn., I put them upon their stand. I then stepped to the house to fit a few pieces of honey comb into a frame, and when I returned the bees were hanging on a bush a few rods off. On examination I found the two front combs had slid down in a heap, which I think was what sent them out. I had to step again to the house to adjust another hive, and when I looked for my bees they had left with no trace of their direction. It is needless to say that since that I have firmly fastened the fdn. to the top bar with beeswax and rosin, and have had no more difficulty. But whenever I had put a frame into hives mainly filled with comb, most of the fdn. had fallen in a heap. Now perhaps I ought not to be surprised if you should say of me, as you did of Mr. Manning in the last Growlery, that I was so inexperienced that I did not fasten to the top bar; but here let me say, somewhat in palliation of my stupidity, that I am not the only one who failed to infer the proper method from your instructions. I know another who made the same mistake, and one, too, whose sagacity, as well as education, is commonly thought to be much ahead of the average.

Now allow me to say, without the least disposition to find fault, that in my opinion our inexperienced friend of the Growlery was right (though it may have been unwittingly) when he said the fdn. was too small; that is, if he put it in wired frames. Now for the proof: When I discovered it was necessary to use a little of my own judgment, I could not see, on reflection, why the fdn. should lack $\frac{1}{2}$ in. of touching either side, as the taut, perpendicular wires would arrest the stretching except between the wires, and the space between each side wire and its adjacent side of the frame is but half the distance between the wires. Therefore the bilge between each side wire and the side of the frame adjacent could be but half the bilge between the wires, unless the wires bend or cut the fdn. That was my conclusion, and, on the strength of that I proceeded to fill my frames laterally, where before I had cut off a strip to make it lack $\frac{1}{2}$ in. on each side. After I had begun to fill frames in that way, I received a catalogue of Scovell & Anderson, in which they instruct

to "cut the sheets to just fill the inside of frames,—no melted wax or other fastening is needed."

Now, my dear sir, if frames may be filled from side to side I should be pleased to know it; if not please give reason, and also why it will not do to fill from the top to the bottom. I know the difficulty in unwired frames, but is the same difficulty found in wired ones? I may say, as a farther proof that frames may be filled laterally at least, that I have just examined the frames so filled after the bees have got them in an advanced stage of completion, and find them all right. In fact, the only place where there is much variation from a plane surface is at the bottom where there is a space left, which seems to me to prove that it may be better to fill the frames according to Scovell's catalogue. But, be assured, I shall on no consideration fail to fasten to the top bar, and also fasten different places at sides and bottom, if I conclude to fill the frames.

Reese, Mich., June 25, 1880.

L. D. GRAY.

PUTTING FOUNDATION INTO WIRED BROOD FRAMES.

I have given the above principally to show how heedlessly some of the friends read their price lists. On page 8, right under the picture of the wired frame, are these words: "*The fdn. fills the frame completely,*" etc., yet, friend G., you have been wasting your time and spoiling your work, aye, and losing your swarms, by cutting down the sheets as the price list directs where no wire is to be used. More than a million of these price lists are in the hands of the people, and I have tried to make them answer all the new questions as they come up as far as I possibly can, but a great many times I find they are not consulted, or consulted too hurriedly. If any one orders fdn., L. size, and does not mention that he wants it for wired frames, we always send the size to hang by the top bar, short at each end, and still more short at the bottom, and of just such a size as we have learned by large experience to answer best. Fdn. to completely fill the frame, without wires, would be almost an utter failure. Your fdn. fell down off the wires, friend G., not because you did not fasten it to the top bar, for this is all a waste of time, but because you did not have it fill the frame *completely*, according to your printed instructions, and, I fear too, because you did not warm the sheets in the sun, or by a stove, as your directions also say. The sheets, as we send them out for the wired frames, a little more than fill the frames, if any thing, and the girls put them in, before an open window fronting the sun. The pile of fdn. lies directly in the sun. The sheet is rolled securely on to the wires, and then with a quick motion of the fingers, the warm, soft wax is drawn up against the side bars and top and bottom bars of the frame, until all "bulges" and hollows are stretched out. It is then put into the hives, and the first work the bees do is to go around and securely wax down these outside edges. I do not know how I can make the matter plainer, and, if I could, our friends complain, and I fear justly, too, that the catalogue is already too large. We have made an index to it, and are all the time at work remodeling it, to see if we can not make it help you more still.

SWARMS LEAVING AFTER BEING HIVED.

A GOOD STORY SUGGESTED BY THE CARTOON.

I HAVE been looking over my fifty hives of bees to-day, and find them in splendid condition; never better at this time of the year. This day is beautiful beyond description. The blossoms are out, the bees and the birds are filling the air with their musical notes, and why should not man thank God for this beautiful country, and be happy?

But your cartoon for May reminds me that I have some notes laid away in regard to bees swarming out and decamping after being hived; for the loss in that direction is more than many are aware of. I myself have lost heavily in that way. Now if you see a swarm coming out again after being hived from three to twenty-four hours, you can set it down that they mean business, and that is a bee line to the timber; for, mind you, they have their place selected then. In 1874, my first swarm, a good large one, came out the next day after being hived. When I saw them coming, I ran and got a pail of water and a dipper, and threw the water among them; but they paid no attention to it, having other business on hand. My wife brought out to me the looking glass, but by this time they had crossed the fence, in the direction of the timber, which was one mile distant in that direction. One of my neighbors was going by, and seeing the trouble ran to my assistance. The first thing he did was to take up a handful of gravel and throw it up among them. All the good it did was to come down on my looking glass, breaking it all to smash. We next got into a field of new mown hay, and, as the most of them were not more than six feet high, we commenced thrashing them with the grass, to try to confuse them. But this only got us into a free fight, we coming off second best, for they stung us most unmercifully. We then concluded to volunteer to go with them to their leafy home; but, on our way, we went right through a neighbor's door yard, where he had a pile of fine stove wood. Here a new idea struck me, and I concluded that, if neither gravel nor grass would do, I would try what virtue there was in stove wood. So I threw the stove wood among them thick and fast, every stick making a hole through them as effectually as if it had been a cannon ball. This so confused them that they alighted on an apple tree, ready to make the best conditions of peace. The boy soon overtook us with the hive, and we carried them back.

On the road back I happened to think I had read somewhere that giving them a card of young, hatching brood would keep them from swarming out. I acted on the spur of the minute, set them down in the apiary, gave them a card of hatching brood, and it just locked them in, and they were happy. I have never hived a swarm since, without giving them brood, and haven't lost a swarm or had one come out. It is final. Now try it, brother bee-keepers, and, if it fails, just give J. Elliott of Easton, Wayne Co., O., a blowing up through GLEANINGS; for I tell you it is much easier and more profitable than running after a swarm on a hot June day.

BLUE THISTLES AND THISTLES IN GENERAL.

Since I have the floor, I want to say to your correspondents that are recommending the blue thistle for bee forage, that if they had cut as many thistles as I have in hot summer days, when a boy, they would go slow on anything called a thistle. I had to

walk among thistles in my bare feet, had to grub among thistles, had to mow among thistles, to plow among thistles, so that I almost wished old mother Eve had minded her own business, and not stole apples off that tree that did not belong to her, and brought such a curse of thistles and thorns upon the earth. We shall have enough to answer for to the next generation, without importing thistles, let them be blue thistles, or white thistles, or Canada thistles, or any other kind of thistles.

Easton, Wayne Co., O., May 4, '80. J. ELLIOTT.

FOUL BROOD.

THE following, from the Salt Lake Daily Herald, will doubtless do good, in warning our A B C class to beware of foul brood, even though the measures recommended are a little strong. I hope no one who has the disease any where near him, will ever think of selling bees or queens.

A LITTLE MORE ON THIS SUBJECT FROM A BEE MAN.

Editors Herald:—We do not wish to become wearisome on this subject, but rather to impress upon the minds of all bee-keepers the necessity of a united effort, throughout the territory, to utterly destroy and effectually eradicate this terrible disease from our borders; and as there is no necessity of importing any more bees into our territory from abroad, there will be no fears on this account of importing the disease in that way, as has already been the case. We will quote a few reliable authors of great experience on the foul brood subject.

Wm. M. Quinby, the distinguished bee man, says: "Foul brood can be traced from a diseased stock to a healthy one, like measles, whooping cough, small-pox, and other diseases peculiar to the human family."—*American Bee Journal*, p. 252, vol. 8.

Herr Lambrecht and his committee, appointed by the Central Bee-keepers' Association of the Kingdom of Hanover, after many experimental tests to cure the contagion, say: "Foul brood cannot be cured." See *American Bee Journal*, p. 267, vol. 8, June, 1873, for their full report.

W. H. S. Harbison, a distinguished bee-keeper of California, says: "Destroy it, by burning or otherwise, wherever found."

W. H. Alley, of Wenham, Mass., says: "Destroy hive, bees and all by fire."—*American Bee Journal*, 1870.

Editors Wagner and Clark, of the same journal, say: "Wm. Alley's is the only effectual remedy for foul brood."

At a bee meeting held in Provo, Utah County, March 9th, 1880, it was the unanimous voice of that meeting that foul brood was contagious, and that the only way of effectually destroying it was to burn or bury the hive and all of its contents. Wm. Edwin Whiteing, of Springville, Utah County, says that he has lost 100 swarms of bees by foul brood, which, valued at \$12 each hive, would be \$1,200. His remedy is burning them up entirely when affected.

Geo. B. Bailey, of Mill Creek, has lost \$1,500 from foul brood, and after much experimenting with the disease, concludes that the most effectual means of destroying it is by fire.

S. H. Putnam, of Woodruff, Utah, says: "By all means burn or bury all infected hives."

C. Stillman, of Mill Creek, has lost, by foul brood, over \$300.

Messrs. W. Woodruff, S. E. Murphy, John Herbs, John Morgan, Ed. Morgan, Dan. Bryan, J. A. Wright, Reuben Miller and others in Salt Lake Co., have lost over 125 swarms from the same disease, the estimated loss being \$1,500. In Salt Lake City about 100 swarms have been lost by the same cause. W. J. Burton, of Iron County, and W. R. Burbeck, of Cedar City, say by all means destroy foul brood hives whenever found. Mr. J. E. Johnson, of St. George, and Mr. C. F. Arthur, of Cedar, say destroy all affected hives as a sure remedy. The direct losses sustained within a brief period by the citizens of Utah from the ravages of this plague are estimated at \$7,060. The consequential losses are set down at \$14,120. Total \$21,180.

EDWARD STEVENSON,

Secretary Territorial Bee Association.
Salt Lake City, June 8, 1880.

Heads of Brain, From Different Fields.

IN PURSUIT OF BEES UNDER DIFFICULTIES.

IF you are in need of "timber" for a cartoon, just picture to yourself an oak tree with a large limb about 20 feet from the ground, said limb being nearly perpendicular, and at a point about 10 feet from the main trunk a cluster of over a peck of bees. A 20 foot ladder stands against the tree; a man in his shirt sleeves stands in the tree just above the ladder; another stands just in reach on the limb with the bees, clothes-basket with table-cloth in one hand, and an eagle wing in the other, his face being protected by mosquito bar.

At the first brush, the bees nearly all take wing. No. 1 has his hands covered with the little fellows who are in no humor for the humerous, and his motions are somewhat accelerated. No. 2 says, "Give me the basket *quick*; I can't stand this." There are no less than 4 bees on the end of his nose, about a dozen more on other parts of his face, and perhaps 20 or 30 more on his neck, each as energetic as it is possible for a bee to become. Taking the basket with about 2 quarts of bees, he descends the ladder as deliberately as a man is apt to do under like circumstances, sets them down by the table on which stands the box hive, puts the hive on the ground, the bees on the table, then the box hive over them, and then—gets rid of a large number of stingless bees, I know this is true, for I was No. 2.

Georgiana, Fla., June 21, 1880.

F. A. WHITE.

Some of the brethren have scolded about the cartoons, and said they were silly, and so I thought I would not have any more until somebody called for them again.—I hope you got your bees home, friend W., and have them now Italianized and made civil.

VALUE OF SEED GARDENS TO THE APIARIST.

I never saw so much surplus honey in the hives so early in the season. I have 2 bee-yards; one is situated 10 miles from home, next to D. M. Ferry's large seed gardens. It yields a big thing in honey. G. M. Doolittle will have to look to his laurels.

M. H. HUNT.

Bell Branch, Wayne Co., Mich., June 25, 1880.

I am very glad indeed of this report, friend H., for it corroborates an idea I have long held, that seed farms would be of great benefit to an apiary; in fact, it is a successful honey farm, although designed for another purpose. Will you please give us further particulars. What plants do you find the bees on? and how about the quality of the honey gathered? I would almost take a trip to a large seed farm, to see a good yield of honey coming from such artificial pasturage.

SWARMING OUT, AND ATTACKING THEIR OWN QUEEN.

I don't know that I am a "success" in the bee "biz," but it is a source of pleasure and amusement to study and watch the maneuvers of the little pets, and then I live just across the street from A. J. Davis, the "bee man." I have to take GLEANINGS to keep myself posted, so I can associate with my neighbor (and his bees), for they take some funny freaks sometimes. He had a nucleus that swarmed

a few days ago, the queen taking every bee with her. He hived them in the same hive and they balled the queen. He smoked them severely, and examined them again in half an hour, and they had the queen balled again. He smoked the bees off, caged the queen, and put her back in the same hive, but that night the bees built a queen cell, and prepared to raise a new queen.

S. B. McCRILLUS.

Anderson, Ind., June 28, 1880.

Such freaks as the one you mention are incident to the swarming-out mania, and characteristic of queen rearing nuclei, or small, weak colonies. They swarm out because they are discontented from being so few, and they attack the queen probably for the same reason. The remedy is to build them up with bees or brood.

HOW TO GET AN "INSIGHT" OF THE INSIDE OF A BEE HIVE.

I bought 8 hives of bees from a man who has gone to Florida, and I never (hardly) saw a bee before, and now I want to know how to manage them. They are in two kinds of hives; some in an old, weather beaten, oblong box, standing on end, with a hole in the top, so that they can store honey in some pail or other vessel. The other style is the same, only it has an upper story into which boxes can be slid. But one can not see into the hive or get at the bees, unless he does as I did last Saturday. It was a cold day, so I essayed to move the bees. I took a spring wagon and loaded 7 hives, and started very carefully for home. My seat was one of the hives. As I was nearing home, going up a steep hill, my horse made a spring, and in so doing tipped me off the wagon, hive and all. This let about 40,000 bees loose, which had the effect of starting my horse across lots, I holding on and shouting Whoa! but the "critter" didn't Whoa! "worth a cent;" so every hive save one was dumped, and I tell you there *was* bees for a while. Now I want to get proper hives, and information what and how to do. I write a long letter to a stranger, but I only do as you bid. Give me what advice you can so that I may know more about bees than I do now, and much oblige—

BENJAMIN HAMMOND.

Mount Kisco, Westchester Co., N. Y., Feb. 26, '80.

As you are a bee-keeper still, after all your mishaps, friend H., I think you will soon get to be a great bee man; but, if I were you, I do not believe I would try it across lots any more.

DUNHAM FOUNDATION.

I got 25 lbs. of fdn. from Mr. Richardson, Port Colbourne, Ontario; but, as it was made on the Dunham machine, it did not go so far as I thought it would. It cost me about the same per lb. as yours would after paying duty on it.

A. G. WILLOWS.

Carlingford, Ontario, Can., June 28, 1880.

Your discovery is like that of many others, friend W. As the Dunham fdn. can be made more than twice as fast as our usual kind, it really ought to be sold cheaper. I have tried both kinds in the wired frames, and do not discover any perceptible difference in the quality of the combs, or of the time of working. As you can get two sheets of the thin, at the price of one of the Dunham, it is an item worth taking into account.

SIMPSON HONEY-PLANTS; PLANTING AN ACRE, ETC.

I have a hundred or two Simpson plants, which I intend setting out in a day or two. Will they take root enough to winter? I have quite a little patch that is a feast to the eyes, from seed this spring too. There are about 25 colonies of bees in this village, and I expect to put 16 stocks into winter quarters, thus making about 40 in all. Next spring I want to plant one acre of Simpson plants in one corner of the corporation, but how much good will my bees derive from this experiment, even if I count on *no* increase? I want my bees at home, but would you advise moving them out of range of others, and putting the plants there? Do you think placing some sort of cheap spring-lock, to fasten the cap to the body of a hive, would check honey-thieves to any extent? I wish to Italianize, with a view to raise queens for a few seasons, but my aim is honey, as soon as I can work up to it. Will it be necessary to Italianize all bees in my vicinity, or can I confine queen rearing to my apiary, and produce pure stock?

KEEPING UNFILLED SECTIONS AND FDN. OVER.

I prepared several hives (sections also) with fdn. for swarms, but they have concluded to defer it until some more favorable season. How shall I save the fdn. in hives and sections until next spring? Will they be destroyed if hives are kept tight? Bees are a complete failure here this season. There is plenty of white clover too; but my hope reaches out for '81 and onward. WM. M. YOUNG.

Nevada, Wyandot Co., O., July 9, 1880.

I would not set the plants out until another spring. They will by that time have formed good strong roots. In fact, seed may be sown now in the open ground, and, if the plants be kept growing, they will have made sufficient roots to winter over safely with a little mulching. Another thing: The Simpson is a rather hard plant to transplant,—much harder than the spider plant unless we wait until the second season and take up the root. Old roots, even if broken into small pieces, will grow and make strong plants. One acre of Simpson plants, with a strong growth on good, rich soil, I think would keep 25 colonies pretty busy from—say July 15th until frost. Of course, it would be better to have your bees away from others if you could without too much extra expense. Locks might prove a partial remedy used as you suggest, but I would prefer having the bees near my house, and surrounded by a high tight fence. You can raise pure stock with common bees all around you. The matter is fully discussed in the A B C. Take off your sections and set them away in the honey-house, in empty hives, until they are wanted again. They can be left on the hives, but the bees will wax and gum up the sections so as to mar their appearance greatly. The fdn. will not be harmed at all by standing over until another season.

BEES THAT WON'T START QUEEN CELLS.

I have 3 queenless hives. Now, how can I get them queens from my old hives? They have started queen cells all over their combs. I have some good, strong swarms, but I can not get a queen cell that has an egg in it. I wish you would start me right in this matter. Now A B C tells me to put in a frame of brood. I have done so, but there is no queen or brood as soon as they are all hatched. I

want to work for increase instead of honey this season. Will my bees raise their own queen? Will sawdust do as well to pack down bees for winter, as chaff? L. L. LOOMIS.

Scotch Ridge, O., July 9, 1880.

In the first place, friend L., it seems to me you have no business in having *three* hives in that predicament; but, as you have, we shall have to get you right, and then you must see that they have brood after this. If you have a colony that will not start any sort of a queen cell, from unsealed larvæ given them, you can set it down that there is some kind of an unfertile or barren queen in the hive that must be got out. I have once or twice found a sort of half queen and half worker, so nearly like a common bee that it was only by the behavior of the bees to them, that we could pick them out; but, after finding this nondescript and pinching its head, they built queen cells at once. All of these troubles came from leaving stocks a long while without queen, brood, or eggs.—Sawdust has been used for winter protection with success as you will see by back numbers of GLEANINGS, but the question as to whether it is as good as chaff or not, is perhaps yet doubtful.

GOOD REPORT FROM TEXAS; DOLLAR QUEENS, ETC.

Bees are doing well this season. From 40 hives we are taking, on an average, 80 lbs. of extracted honey per day. I don't know how long this will last; it commenced a week ago. Of the three one-dollar queens I bought of you last year, two proved hybrid; the other has the finest colony of Italian bees I ever saw. I have raised a lot of young queens from her. There are so many black bees here, we are troubled to get them purely mated. We will have to get more Italians from abroad, and then we may succeed in raising our own queens.

Lancaster, Texas, July 5, 1880. E. J. ATCHLEY.

You paid for the three queens, friend A., the price of the one that proved pure, for I presume she would be called a \$3.00 queen, and you have two hybrids besides, so that you are nothing out, even though two out of the three did prove hybrids, and I think this decidedly an unusually bad report from dollar queens.

NON-SWARMING BEES.

I have found a non-swarming strain of bees, should anybody wish some of that class. Last week I transferred a stock that has been owned by the same party for 14 years, and has never sent out but *one* swarm. That was two years ago, and the new swarm has never swarmed yet. I also transferred it. The old one was in an ordinary-sized box hive, and stood out on a box in about the ordinary way. They were, of course, the common black bees. How is that for non-swarmers? A. A. FRADENBURG.

Port Washington, O., July 12, 1880.

Very good, friend F.; but if they did not swarm at all, they ought to have made at least 50 lbs. of honey each year. If, as I half suspect, they did little or nothing, I do not know that we shall care to develop such non-swarmers. I once heard a boy boast that he had never read a novel in his life; but when the truth was got at, it was found that he had never read anything at all, for the simple reason that he was too lazy. I would rather have the boy who reads novels and the bees that swarm, as the lesser of two evils.

HEART'S-EASE AS A HONEY PLANT, RAPE, ETC.

I received fdn. in good order. Your mode of packing is good, and freight charges were very reasonable. I have 54 sheets of the fdn. built out in 12 days, and have extracted from them once. I have one acre of rape in bloom. It does splendidly here. There is a kind of weed growing here called heart's-ease, that yields large quantities of a red-dish colored honey. Chaff hives, plenty of shade, and combs that won't break down,—that is what my bees have. We have a large yield of basswood honey just now. W. C. FORREST.

Harlan, Iowa, July 2, 1880.

HYBRIDS VERSUS PURE ITALIANS FOR HONEY.

My bees wintered well, but the season has been so poor that only one has given any box honey. White clover does not produce any this year, dry weather having ruined it early in the spring. The recent rains have revived it until the fields are white, but no honey comes worth speaking of. The one that has made surplus honey is a hybrid that I bought for pure last fall. My fine bees have filled their hives and built a little comb in sections, but did not fill them. I have not had any swarms; in fact, there have been very few swarms in this section. Linn came and went, and we hardly knew it. I am an A B C scholar, and have been in the business 3 years, two of which have been very poor. I transferred 2 colonies in the spring that are doing well considering the chance they have had. H. S. SHULL.

Wellsville, Columbiana Co., O., July 5, 1880.

For several seasons, I have had the same experience, friend S., and, in view of this, I can not think it a very great misfortune, even if your young queens do meet a black drone, or if, with all your care, there should be a taint of black blood, if you are working solely for honey. If you are going to sell queens, of course, you must be able to furnish queens that are pure, and therefore you need an imported queen; but I have many times thought it might improve the bees of Italy, to take a few blacks among them. Perhaps I am not very "orthodox" on breeding "to a feather," but I believe I am on breeding bees for business. I do not like stinging and robbing bees, I confess, but I do like bees that always have their hives full in the fall without feeding.

QUEENS THAT DON'T LAY, ETC.

Send me another bee. The one you sent me remained in the hive apparently content for six or seven days, but did not lay any. She suddenly disappeared, and I don't know whether the other bees killed her, or whether she got up and "dusted."

B. F. JACOBS.

Waterville, Marshall Co., Kan., July 3, 1880.

It is a fact, that queens that were laying as nicely as could be, when taken out of our apiary, will sometimes refuse to lay at all after a long journey. I should say perhaps one in a hundred do this. At first, our boys were in the habit of saying they did not believe it, when a customer so reported, but I reminded them that it would be most improbable that any one should say a queen would not lay, just for the sake of getting another, and chid them for their thoughtless want of charity. A queen that will not lay is, of course, worse than none at all; and I have always been in the habit of sending

another at once, even with dollar queens. This reminds me that, in the Growlery for last month, I omitted to say to friend Mead, that when he found his dollar queen did not lay, he should have reported promptly, and received another; and, although nearly a year has passed, I will yet gladly send him another, whenever he is ready to receive her. For every dollar I receive, I wish to render a fair equivalent. Some may think there is a pretty good profit in paying 60c for queens and selling them for a dollar, but, if any one will try it and make all his customers good in the way of losses in shipment, queens that won't lay, mistakes and errors in handling such perishable, risky property, etc., I think he will decide it is none too much.

BUTTON BALL AS A HONEY PLANT.

I enclose with this, 2 full blossoms, and several buds, with the leaves, of a bush that is growing on my little place, and it beats all the blossoms I have ever seen for honey. The bees are perfectly swarming on it. It is a rather scraggy bush, 3 to 6 ft. high, and grows along a small stream. It is now spreading rapidly, and I will soon have a large lot of it. I wish you could see it just as it is here. The blossom is perfectly round and very sweet. The bees do not have to move from flower to flower but seem to get their fill without moving. Will you please inform me through GLEANINGS what it is. You will see by the buds just started that it blossoms very profusely. Bees here are doing extra well; this flower will last them until the middle of August.

Syracuse, Neb., July 7, '80. L. E. SINSABAUGH.

The plant is the common button ball, several times mentioned in our back volumes. If I am correct, Prof. Cook once called it a better honey plant than the basswood. It grows within a half mile of our honey farm, and since you have called attention to it, friend S., I will set right about seeing how the bees work on it here, and getting some of the bushes for planting down by the pond. I believe it generally grows in swamps and wet places.

I feel like giving you and your class a little light on two points, pages 338 and 339, July No.

DEAD QUEENS IN FRONT OF HIVES.

The dead queens in front of the hive were killed by a young queen just hatched. The swarm waited too long, and the young one came out. I have had lots of such work.

ABSCENDING SWARMS.

Wait 15 minutes before you give a new swarm a card of brood, and don't get it from the old hive. Be sure that you haven't got a queen cell, and have eggs and larvae too. If they go back to the old hive within 15 minutes after being hived, their queen is on the ground somewhere. If they stay, give them the card of brood, and set them on their stand, and shade them. I had a swarm which stayed 3 days and then came out. I changed the cards of brood with another hive, and they stayed. You should select very young larvae.

I had one colony that swarmed 4 times with only 1 queen, and not even a queen cell in the hive. I have 20 new swarms from 32, making 52 in all. The basswood is in bloom now, and it is loaded.

FAYETTE LEE.

Cokato, Wright Co., Minn., July 5, 1880.

POLLEN CANDY.

Mr. Root:—I received the queen yesterday all right, and introduced her to-day, by caging her until this morning, and, at this writing, she is permanently entailed I think. I am succeeding amazingly. I send you a sample of candy to feed bees which is 1-10 bee-bread obtained by washing the pollen out of the comb that was left after transferring. I have transferred 13 colonies out of box hives, and have enough pollen to make 30 or 40 lbs. of the candy. Now do you think it will do to feed bees next spring, in the form of the sample I send? I took 25 lbs. of honey in sections yesterday. Please let me know by return mail what you think of the candy so that I will know whether to make up what pollen I have before it spoils. L. C. McFATRIDGE, M. D.

Carroll, Ind., July 3, 1880.

I think "tip top" of the candy, friend M. It tastes exactly like the wild thorn blossoms; and I can almost imagine while it is in my mouth that I am standing under the trees while in blossom. The sugar seems to have a property of preserving the pollen, even in its fresh flavor; and I think it will be ahead of any of the artificial substitutes. If it could only be obtained in such quantities, it would be a great thing; but I do not think I ever saw 5 lbs. of pollen in a hive here in my life.

BEES AND FRUIT.

At a recent meeting of the Santa Barbara Co. Bee-Keepers' Association, the subject of fruit-growers vs. bee-keepers was discussed, together with the probable fight that will take place between the two at the next meeting of our state legislature, and it was voted,—

That the secretary request the editors of the leading bee-journals of the country to publish any articles bearing upon the subject of the destruction of fruit by bees.

If you can find space in your valuable journal in which to gratify our wish, we should be pleased to see any republications or original articles on the subject. FRANK FLINT, Sec'y.

Carpenteria, Cal., June 24, 1880.

I shall be very glad to publish facts in the matter, but, while so doing, I most earnestly desire and pray that the whole difficulty may be settled without any fighting or even controversy. While the bees doubtless have been blamed for much they were not guilty of, I think we should be candid enough to admit that the evidence given in our back numbers is sufficient to prove that bees do, at least at times, damage the interest of the fruit grower. If your neighbor is a fruit grower, try to agree pleasantly with him in regard to the damage, if any, and, if you cannot do that, move to some other locality, and trust God to take care of you. Some of you will ridicule such a course I fear, but, if you cannot accept it, try the fighting way, and, after years are passed, sum up the respective costs of each course, and then see who is best off and *happiest*. "Not by might, nor by power," etc.

INTRODUCING; A FAILURE IN.

I must tell you of my failure in introducing that queen you sent me, as I think it is an exception to the general rule. She came all right, was lively enough, and had plenty of candy and water in the

cage. I had a hive from which a natural swarm had come 5 days before. I opened it and took out 2 cells sealed up, 4 almost ready to seal, and 2 just about half built. All the unsealed cells had larvæ in them. I looked all the frames over carefully, to make sure there were no more, then turned the cage screen downward on the frames. This was about 2 o'clock P. M. I looked at it again at 5, and the queen was dead in the cage. I shall try again as soon as I get the money to send to you, but think I shall send for ½ lb. of bees with the next.

ALBERT L. ENTRICAN.

Westville, Mich., June 30, 1880.

We have, occasionally, a case like the one you mention. Yesterday I had one such, where the queen and bees were all dead. They were lively in the cage, and seemed all right; but, after being put over the frames in the hive, they soon all died. We have recently introduced nearly all our queens with the introducing cage for cold weather, given in the A B C, and with these our losses have been very few indeed. The plan is somewhat similar to that of the Peet introducing cage. On another page, we give a cut of a shipping and introducing cage, sent us by our friend D. A. McCord. All of these cages are so made that they can be put right down among the brood, by separating the frames slightly. Perhaps separating the frames slightly will be an advantage with any cage; of course, taking care that no combs are built in this space.

DRONE FDN. FOR COMB HONEY, ETC.

We wish to make a change in our order of yesterday. Instead of drone fdn. as ordered, please send 5 lbs. of *thin worker*, and 2 lbs. of drone fdn. Come to take out honey, we think the drone does not look as well. Will you kindly inform us which size of section frame is best for market, and for bees to do the most work in; that is, for all purposes, so when we order again we can get the best size, all things considered. W. H. TODD.

Vermillion, O., July 2, 1880.

There is but little doubt, but that most people will think the small worker cells look better for comb honey, than the coarser drone; but, on the other hand, few will dispute, that the bees build out the drone comb and fill it with honey much quicker. I cannot say, at present, what the difference is, but, during a heavy yield of honey, when bees find it difficult to build comb fast enough, I think the drone fdn. would make a great difference in its favor. I should still prefer the Simplicity, one-pound section, to any or all others.

A GOOD REPORT FROM HYBRIDS.

I tried to prevent the colony of hybrids, which I purchased of you last July, from swarming by giving them plenty of room, and taking away the frames of honey nearest the side of the hive; but all to no purpose. June 10th they sent out a large swarm which has already drawn out 8 sheets of fdn., built one frame of comb of their own, and nearly filled them with brood and honey. Five sheets seem to be little else than solid masses of brood, clear out to the ends. Another year, if I live, I shall know better how to manage them. This is my first year's experience with bees—the first time I ever saw bees or hived a swarm. But I got along nicely with it all,

and had no help but the A B C of Bee Culture. Would you advise me to get Italian queens for the two hybrid colonies this fall? If so, which month will be the best for making the change?

L. H. GREEN.

Bergen, Genesee Co., N. Y., June 29, 1880.

I do not know, friend G., but I should advise you to keep the hybrids, if you can get along with their stings. After you learn to handle hybrids, you can certainly handle other bees, and if you kill a hybrid queen in any of your manipulations, you are but little out of pocket. Perhaps some of you remember a young man I met in the jail, a little over a year ago, whom I called S. Well, S. had GLEANINGS to read while he was in the penitentiary, and he is now not only a pretty fair bee-keeper, but I trust a Christian as well. Last evening he came up to see me, and wanted some hybrid queens. He gave as a reason, that his hybrids made nearly, if not quite, as much honey as his neighbors' Italians, and that if he lost them in introducing and in artificial swarming, it would be little matter. He said he wanted them to practice with. I remembered a queen that we had hard work to decide upon, whether an Italian or hybrid, and, as we call all uncertain cases hybrids, to be on the safe side, I gave her to him. Another produced very finely marked bees, but she was rather old and dark, so he went away well satisfied with his two queens at 50c each. I think it quite likely that many queens are condemned as hybrids, that are really full bloods, and such queens, at a low price, are often a great boon to novices.

QUEENS FLYING WHEN INTRODUCED, ETC.

I wrote you, the 25th, that I had received the queen you sent me all right; but, in attempting to introduce her, she flew away, and I ordered another one. The mail had not been gone 5 minutes, when I made the discovery that she was in the hive, and permanently entangled; but, as we only get mail every Tuesday and Friday, I could not countermand the order, for I am 13 miles from Logansport. I have 6 stands now. I bought 3 and increased to 6 by artificial swarming. When I bought them, they were in box hives, and I transferred them into movable frame hives all of my own make. I have taken about 100 lbs. of comb honey, in sections, and have also transferred 6 colonies for my neighbors.

Carroll, Ind., June 28, 1880. L. C. McFATRIDGE.

The flying of queens when being introduced is a troublesome problem. It is true, they generally come back, but they do not always do so, and it is very trying to the owners, to see them soaring aloft in such a careless if not reckless way, when they cost so much money, and are needed so much down in the hive. I dare not recommend daubing honey on their wings, for, if they should not be accepted, the honey would dry on their bodies and kill them. Clipping their wings will do it, but I do not like to clip a queen just as she is to be introduced, nor just as I am going to send her away. If I should clip every queen as soon as she becomes fertile, a great many would scold and refuse to have a mutilated queen, in spite of all the explanations we could make on a whole sheet of paper. I really can not see

any other way at present, except to let them fly whenever they want to. Will says he hardly ever has them fly, because he lets them run out of the cage directly on a comb and then closes the hive quickly, if they are not molested. One of our lady friends graphically portrays below, her own feelings while her queen was in the air, and also how she felt when the queen came back again.

I opened up my new swarm, and destroyed what queen cells they had started, and, according to directions, put the queen on top of the frames, wire side of the cage down. The bees seemed to receive her at once, but I thought I would go as directed. On Saturday, at noon, I thought I would let her out, though she had only been in the hive 24 hours, instead of 48; but as the next day was Sabbath, I concluded I would try her. I drew back the slide, she came out, and was walking over the frames perhaps a minute; then up she flew, making several circles, and soared away out of my sight. You can better imagine my feelings than I can express them, so many thoughts passed through my mind, such as these: "I'll not tell any one about this; they laugh a good deal at Mrs. A.'s experience in sending for queens," etc., when back she came and went directly down among the combs. I then shut up the hive, went away, and, in half an hour, opened up again, when she was going over the combs and being fed by the bees. On Monday, I again looked for her, and found she had laid quite a quantity of eggs, so that in 6 or 8 days from now, I expect to see some yellow bees flying to and from that hive.

MRS. J. B. ADAIR.

Indiana, Indiana Co., Penn., June 18, 1880.

ON THE RIGHT TRACK.

My bees are doing very nicely and are just overjoyed with those hives. My early swarms have got ready for the upper story. I now have 28 swarms all told. Oh! I do so much want those hives, in order to get all the honey from them that I can this fall, to help me in my shortened circumstances, for I have a large doctor's bill hanging to me, for kindness to me in sickness. Bee-keeping is a new business to me on so large a scale, and it does seem to me as though the hand of God was with me in prosperity with them, for I never had any luck with bees before, and it was just because I did not ask for help from the right source. Now, friend Root, please to ship just as soon as you possibly can, and you will do one of the greatest favors you ever did. Cortland, O., June 29, 1880. Z. D. STJOHN.

Our friend's order came to us about half-past 10 A.M., the 3d of July, and by 3 P.M., the same day, his hives were packed and on the cars. I do feel that he is on the right track in asking God to help him in his daily work; and the humble, thankful spirit with which such calls for help should be made seems to show all through the letter. To be sure, he will prosper.

SOMETHING ABOUT THE SIMPSON HONEY PLANT.

We left about an acre of land this spring that we had plowed last fall for buckwheat, and, of course, it had grown over with weeds. Last Monday we went over to plow it, but what was our surprise to find it just roaring with bees. Well, I stopped plowing, picked off a bunch, and went for the A B C book, and found that it was the Simpson honey

plant. The bees have been on it from morning to night ever since. The ground is perfectly grown over with it. It would be very abundant here, were it not mowed out of the wheat. We also sowed 2 lb. of rape, and the bees are thick on it in the forenoon. Hutchinson, Minn., June 20, '80. H. INERGENS.

MR. CHESHIRE'S INVENTION AS TRANSFERRING WIRES, ETC.

The Cheshire invention is a most extraordinarily valuable invention, and you can have a large trade in it. It will be good for transferring, as well as for comb fdn. I would have liked to write you a very interesting letter, but I thought there was no time to lose in getting this before the public, and the demand for queens is so large that I will have great difficulty in supplying them. My bees are gathering about \$200.00 worth of honey daily. D. A. JONES.

Beeton, Ont., Can., June 22, 1880.

A ROMANCE IN REAL LIFE, "FOUNDED ON FACTS," IN TWO CHAPTERS.

Chapter I. *Darkness.*

Thanks for your promptness. I received your queen in just one week in good order. In introducing her she took wings, and has not been seen since. I inclose \$2.50 for another tested queen, and wish you would clip one of her wings. I think the other was rather small.

June 20, 1880.

Chapter II. *Sunshine.*

As I found my queen this morning, I will not want another. You can guess I was well pleased. She went to a nucleus about a rod away, where she was well received. It had been queenless for about a week, and I had given them a queen cell on the 29th. She had commenced laying. Well, I think she is fair size; perhaps in a week she will be a large one. Violet, Ont., Can., June 30, 1880. DAN. WRIGHT.

FAULTY R. R. OFFICIALS. ALSO SOMETHING ABOUT THAT SUNDAY-SCHOOL.

I received my goods last week, and I think they were at the depot at the time I wrote you. The station is a mile out of town, so that the first time I went to look for the things I made arrangements with the agent and a drayman that I am acquainted with to send them up town, and they never came. I had the goods almost two weeks before I got notice of their being at the station.

Now I want to tell you something about that Sunday-school queen. We have had 9 queens from her this spring, and they are nice. Now I want to tell you more about it, and that is the Union Valley S. S., last Sabbath, voted their thanks to you for the kindness. I sent off and got the school a new lot of singing books and presented them as a gift from A. I. Root. Some one in the school moved to tender thanks to you for the books. Now just imagine 100 voices both little and big say "I."

Bees have not done much here this season yet, for we have no white clover in our vicinity, but will have soon. My bees are storing honey at present from linn and buckwheat. We get our honey all after this time here always. JAMES PARSHALL.

Union Valley, Mo., June 23, 1880.

In your remarks about the goods, you touch upon a great weakness of humanity, friend P. I mean a lack of thoroughness. Often we are told goods have not come, or things are not to be found, when a careful search reveals them right where they should be. Our clerks often say goods in stock are

all gone, when I can find them at once, if I take the time to look. Are my eyes any better than theirs? or is it only because I am more intensely interested?—I am glad to hear from the Sunday-school queen, and from the children. Tell them to stick to the school, and be sure that it never runs down; I almost feel, friend P., as if there was a sort of relationship between you and me and those children young and old. May God bless you all.

SENDING QUEENS AND BEES TO COLORADO.

I received the queen and 1 lb. of bees all right. They came through in 9 days, and still had plenty of honey left. They were in splendid order, and well put up. Charges to Greenwood \$2.20. That's pretty well for 1 lb. of bees. You state that there is 36c due me yet; I did not intend to have any balance due me, for I directed you to send me a queen worth that much more, from your prolific stock. You might have picked her out a little longer waited or somewhat squarer shouldered. As soon as they came I gave them water, and they seemed very thirsty and drank freely. This morning they are taking a look at the mountain scenery, and breathing the cool, fresh air.—My bees are storing large quantities of honey, and, at the same time, we are having a fearful drouth.—One of your dollar queens which I got of you last year had her hive filled with honey on the 9th of June,—16 frames. She was the smallest and darkest one sent.

H. H. C. BREECE.

Greenwood, Col., June 23, 1880.

QUEENS TO WASHINGTON TERRITORY; HOW TO PUT THEM UP, ETC.

The 3 tested queens came through in splendid order. They were 20 days on the trip, and no one could have told by their looks that they had been in the cage 2 hours. Those two-frame cages are the thing for long distances. They had used all the honey in one frame and nearly half of the other. Those old, tough combs are better than new combs I think, for the bees were clean; there was none of that dauby look which those had that I received before on new combs. I introduced them according to instructions in A B C, and the next morning found two of them laying.

H. A. MARCH.

Fidalgo, Wash. Ter., May 31, 1880.

The cages used for these queens were like the one shown on page 209, June No., of last year, only they had 2 combs instead of one, in view of the long distance they were to go. They were essentially the same as the cage or box used by our Italian friend Bianconcini, for sending us queens from Italy.

DIFFERENCE IN WORKING QUALITIES OF DIFFERENT HIVES.

I started with 79 colonies, and by care and attention have prevented any great swarming fever; in fact, I have had but 6 natural swarms. Last week one colony (not the best) on scales, gained 13½ lbs. in one day, and to-day 7 lbs. It is passing strange what a difference there is in the working capacity of bees. I have colonies that have made over 100 lbs. surplus already, and others built up equally strong have not made 10 lbs. J. W. PORTER.

Charlottesville, Va., June 18, 1880.

We too, friend P., notice the wide difference in the working qualities of bees, even Italians. Under the old regimen of box hives and logs or hollow trees, the best only

survived. With modern appliances, if we do not look out, we shall be nursing up and wintering over good, bad, and indifferent. Friend Jones and Benton have made a good start in the right way; shall we not follow it up, by trying to make the "survival of the fittest" our rule to work by?

TOO MUCH RAIN, PATENT-HIVE VENDERS, ETC.

Bees in this vicinity have scarcely made a living so far. White clover is in bloom, but we have frequent showers of rain, which seem to wash out all the nectar, as the bees don't appear to attend to business for two or three days after a good shower. I have sections and extracting cases on, but no honey as yet, though there is plenty of brood and a few swarms. I have some black bees, but am trying to Italianize. I have had good success by killing the black queens and immediately inserting a queen cell. I think this plan is not considered good, but it suits me so far. I raise my cells according to Townsend, and have 21 in one hive now (after the stealing was done), and about the same in another. I don't expect to get much honey this season, as there has been a patent-hive vender around this spring, selling shares in his hive at \$5.00, also giving the lucky buyer the chance of getting his hives at wholesale prices. He was armed with a Quinby smoker, a piece of fdn. two inches square, a one-piece section (busted), and a model hive similar to the Gallup, only the bottom board is in strips, so you could let down one or more and make room for the moth in the cracks. The neighbors almost all went in for a share. He called on me, but I was supplied with the L. hive. He told the neighbors that I was behind the times on bee-keeping. Perhaps I am; but I think it best to be behind sometimes. I have 65 colonies; use the L. hive, extractor, Italian bee, raise all my own queens, do my own transferring, and think I can do all Mr. Vender can, except *swindling the people*. I have often tried to get subscribers for the journals, and they say it won't pay, as they keep only a few swarms; but \$5.00 would pay for a bee journal a long time. My bees have worked on clover just 3 days since it rained, and now we have another shower to-night. Is the rain the cause of there being no honey in the clover? or what is it? Some colonies have not 4 lbs. of honey in their hives, but 10 frames of brood.

D. G. WEBSTER.

Park's Corners, Ill., July 4, 1880.

Too much rain is rather bad, but I do not think it as bad as too little; and if you will just hold on, friend W., I think you will have honey yet before the season is over. Let your neighbors see that it is a steady pull and not patent hives that gives success.

WHY ARE THE BEES CROSS?

I have 30 stocks of bees, all in chaff hives, and from the stock I bought of you in June, 1878. They are on a plat of ground about 16 x 150 ft., covered with sawdust, at one side of my house. I have not extracted any yet this season, intending to have nothing but section honey, and have put on wide upper frames for sections (from 5 to 10), as the bees appear to want more room. Now, they have been exceedingly troublesome this spring, and are growing more so. They attack man and beast in and out of doors. This morning I was attacked, though not among the hives, and was stung on head, arms, and hands, in more than fifty places. Please give me some reason for this, or advise me in what ways I may look for a

cause, and oblige. If it cannot be remedied, I shall be compelled to destroy them all in order to live in any comfort. They are surrounded with fruit-trees and berry-bushes.

EDWARD ORR.

Mt. Clemens, Mich., July 1, 1880.

I presume the primary trouble, friend O., is that the flow of honey has suddenly ceased. Perhaps the late heavy rains have washed it out of the flowers, and you have been trying to handle them, without paying any attention to this fact; and, possibly you have let them get a taste of stolen honey, in some thoughtless way. See what the A B C says about ANGER OF BEES. May be your bees are hybrids. In any case, if you let them alone for a few days, the matter will usually right itself. Practice and experience will enable you to so handle cross hybrids, that you never need be annoyed in this way. I presume, without doubt, that every thing is tranquil long before this reaches you.

There is something queer in the way in which a beginner will "put his foot into it" at every turn, when bees get cross or are robbing. It was only yesterday when the boys said they could not tell what "*ailed* the bees;" that they acted crazy to push into every hive that was opened. I took a look, and declared they were robbing some hive. They said they had examined every hive in the 250, and there was not one that was not defending the entrance perfectly. I insisted they were robbing, and pretty soon cast my eyes over to the house apiary. It was literally black with bees around the entrances, large numbers being dead. The entrances were all promptly reduced in size, and the hive that had been overpowered was closed up entirely. In a half-hour all was as quiet as usual, but I lost a fine colony having a nice, young, laying queen. The queen and brood were saved, but the bees were all demoralized and gone from the hive. This was all done by letting them go on for perhaps a couple of hours, when one glance at the house apiary would have shown where the trouble was. If your bees get to acting in the way you describe, friend O., find out where the trouble is. If it is not in your own apiary, it is probably at a neighbor's. I once had such a time when the bees were robbing a strong colony in the woods, and the best I could do was to nearly close all the entrances to every hive in the apiary until the woods swarm was "cleaned out." It took about a day, and they filled boxes, in some hives, with old, thick, dark honey.

THE BEE FEVER; HOW IT IS "INDUCED."

I am a beginner in the bee business, and have never read an article on bees. I have one good colony of Italians, which I procured from a friend here, one year ago. He has been kind enough to give them some attention and show me how to do it. He has an extractor, and with his machine and assistance, on the 1st of July, we took out of the hive 4½ gallons of strained honey, and 30 lbs. of beautiful, new comb honey, which, with 10 lbs. taken out a few weeks ago makes 40 lbs. of comb honey taken out this season, besides the strained honey. The sight of that pile of honey has inspired me with an ambition to know more about the business.

CHARLES H. TURNER.

Parkersburg, W. Va., July 3, '80.

SOURWOOD.

After publishing my little sketch of the Sourwood, in June GLEANINGS, you ask who can furnish you small trees. Now, if you will accept of such as can be procured from the forest, I will undertake to furnish trees of from 3 to 5 feet, with roots packed in damp moss, and delivered on board the cars here for (provided you want a good many) \$5.00 per hundred. We have been experimenting with sourwood for a few years, and think, with proper management, 99 out of a hundred will live. It is my opinion that the trees would flourish in any state in the Union. We find it here on our highest and coldest mountain sides and tops, and it is common in the middle portion of our state, where the climate is much warmer. It is a native tree as far north as Pennsylvania.

LOCUST-TREES.

You also ask who can furnish small locust trees for you. I can furnish them, packed as above, for \$4.00 per hundred. We will pack all so as to go securely by freight, and warrant them to grow if directions are followed in setting. Recollect I will warrant *all* my trees, both sourwood and locust; that is, I will send more if they die when directions are followed.

H. A. DAVIS.

Moretz Mills, N. C., June 7, 1880.

I have given the above, because it answers many inquiries in regard to what these trees are worth, etc. By looking around a little, I discover that locusts grow in this vicinity almost spontaneously, and trees not more than 6 feet high are often covered with bloom. I presume they can be had in almost any neighborhood. A friend, who is a R. R. man, says they are good for nothing for posts, unless they stand close, like a forest, so the trees grow up tall and straight, to reach the light. I presume this suggestion will apply to the most profitable culture or all kinds of forest trees. The ground seems to need to be shaded with a dense foliage.

FASTENING FOUNDATION INTO FRAMES.

Has the idea ever occurred to you that fdn. can be fastened in brood frames by means of a heated iron? Take almost any sort of a rod (not too long nor too short) with the point slightly bent similar to the point of a stove hook. The heat will fuse the fdn. and seal it fast to the guide, without any daubing with wax, honey, or starch. This process might not go where there is no comb guide; we have not tried it; but, with a guide, the method is complete. If the iron is quite hot, one must touch lightly and work fast. A little practice will tell best how to heat it. Fastening fdn. with a brush is too slow to be recommended, and ought to be taken out of print. If wax is to be used, instead of a brush use some sort of a ladle; a table-spoon is about right. Hold the frame in a position so that the top bar and fdn. will form an inclined trough. With the ladle, pour melted wax in the uppermost corner, when it will run down said trough, sealing as it goes. Should wrinkles occur in the fdn. next the top bar, follow the stream of wax and level the fdn. with the hot ladle. Of course the ladle is kept in the melted wax when not in use. This must be in a warm day or warm room, so that the wax will not cool too suddenly. I think perhaps this plan is as expeditious as any that can be devised, but I rather like the hot iron.

D. B. BAKER.

Rollersville, O., June 14, 1880.

The plan of the hot iron is old, friend B. See back volumes of GLEANINGS. I believe it was not generally liked, as it was too much trouble to keep an iron hot. The melted wax plans you mention have also been several times in print.

BLUE THISTLE.

Friend Novice:—I have noticed much lately about blue thistle. Here is what I know about it. We have it on our farm, and it is on adjoining farms. It is a bad weed, but still it can be kept within bounds very easily. It will grow very strong for one year in our soil, and perhaps the next year there will be but little of it. It winter-kills, and is propagated each year from the seed. The seed will remain dormant several years in the ground, and it is hard to eradicate on that account. It seems to thrive best on a limestone soil, or near lime rocks. If it grows in pastures that are fed down close with plenty of stock, either sheep or cattle, they will feed upon it more or less, and check its growth. It has an abundance of flowers, and continues to bloom through the entire season; but its best time for honey is in June and July. The tube of the flowers in thrifty plants is quite deep, and I have been inclined to believe that it requires a long tongue to reach the nectar. Bees work upon it very industriously, but I have never obtained sufficient of it separate from other honey to determine fully its quality. I think it is darker than clover, and of a pleasant flavor. I would not recommend the sowing of it unless we can find some use for it aside from its honey qualities. It seems as though it *ought* to be used for some good purpose, for, under cultivation, it makes a very rank growth. The stalk and root are very full of juice of a viscid nature when in full growth. We ought to remove the curse which rests upon it and place it in the list of useful plants. I will try to find time to study its nature more closely during the present season.

J. H. MARTIN.

Hartford, N. Y., June 7, 1880.

ONE OF THE "CHILDREN" IN TROUBLE; AND THE IMPORTANCE OF UNSEALED BROOD IN A HIVE.

I am in a little trouble. I have a colony of bees which came out yesterday. The wind blew very hard, and the bees clustered on the body of a spruce-tree where the branches were very thick, and I was very much bothered to get them. I had to brush them off (where I could get to them) on a dust-pan, and put them in front of a hive. Where I could not brush them, I smoked them out (thanks to the smoker you sent me). Well, I got them in the hive in due time, but they do not go to work to-day, but stand around with their "backs up" as though they were not pleased about something. They are in a new Simplicity hive, with fdn. starters in every frame. I am afraid the queen got lost, owing to the high wind or my efforts to get them out of the tree. I have but one other colony, and that is in a box hive, consequently I can not give them a comb of brood. I have ordered some 3-frame nuclei from Wm. W. Cary, of Massachusetts, which I am expecting daily. How will it do for me to take a queen from one of those nuclei? or would it be better to take some brood from them and put it in the hive, if I should find they have lost their queen?

T. A. ROGERS, M.D.

Kennebunk Port, York Co., Me., June 2, 1880.

Give them some brood, any way, friend

R., and another time do not stop because your other bees are in box hives, but get out a piece at once. I never saw a box hive yet that I could not get a piece of brood out of, and in a few minutes too, if there was any in it. *Never let a colony be without brood, even over night.* If you have sent for a queen, it is all the more important that the bees should have at least a piece of unsealed brood to busy themselves with. Brood is to bees what weights are to clocks,—everything stops when they are gone. If your bees get to robbing, nine times out of ten it is because there is no unsealed brood in the hive. Just this forenoon I directed Ernest to give a hive some brood, because robbers were getting in. As we were on the way to dinner, he informed me that they did have *two* frames of brood.

"But, is it unsealed larvæ?"

"Why, no; I did not know that made any difference."

He had to go back and close up the hive, for it makes all the difference in the world.

WORN OIL CLOTH FOR COVERING THE FRAMES.

I am using old oil cloth for covering the frames. You spoke of using enameled cloth, and, as I had old oil cloth, I used that, and it works well so far. I presume many families have pieces of old oil cloth which are of no use about the house, but are large enough to cut nice covers from. I think the honey season has just begun here. Basswood commenced to bloom on the 7th.

ASPARAGUS AS A HONEY-PLANT.

I have over an acre of asparagus, which they have just commenced on. White clover has been in bloom two weeks, but there is not nearly as much here as where there is newly cleared land.

GEORGE H. RICE.

P. S.—I have opened this to say a few words about fertile workers. In looking over A B C, I can not find that a *queen* is in danger of being stung to death by a fertile worker. You say, p. 79, that "she will be pretty sure to get stung." Is the fertile worker ever the cause of her death directly? After the tested queen you sent me was lost, I had a fertile worker; I saw the scattering eggs and other signs, and one day I saw a bee slightly developed, with the glossy appearance, and as she went about she would stop and make a kind of piping noise. Have you an idea that it was a fertile worker? I have got rid of her with combs of brood and bees from another hive.

Worcester, Mass., July 9, 1880.

G. H. R.

We use enameled cloth, because it is so soft that it can not kill bees when pressed down on their backs; but I fear most of the oil cloth used ordinarily would be too heavy. Bees can not stick wax or propolis to enameled cloth, at least not so but that it can be quickly peeled off perfectly clean.—I do not know that the fertile worker ever stings the queen, but I presume it is the other bees balling her just as they do when they have a queen. The bee you describe was undoubtedly a fertile worker, and I should have pinched her head the moment I set eyes on her. After destroying such a one, I can usually introduce a queen without trouble.

ALIGHTING BOARDS MADE OF SLATE, ETC., ETC.

Perhaps it may be of interest to know how I keep my bees. I have them in 1½ story hives, standing

in 4 rows about 6 ft. apart. The hives in one row stand in front of spaces in the row behind, all fronting the south. I make blocks of concrete with coarse sand and Portland cement (6 sand to 1 cement), about 4 inches square, and 3 in. thick. Two of these blocks, I put under the front corners of the hives, letting them project about an inch in front, and another block in the middle of the rear end. On the blocks in front, I lay a roofing slate 9x18 in., for an alighting board, with front edge on the ground. Between the hives I spread ground dyewood which I get at the woolen mill, which tends to keep down the weeds. Last fall, I put several thicknesses of heavy wrapping paper in the rear ends of my hives, hoping it would make them warmer and dryer. They wintered well on their summer stands, but this spring tore the paper all out.

Fishkill, N. Y., July 5, 1880.

JAS. E. DEAN.

Your arrangement would be very neat, friend D., but I fear you will have a lurking place for toads, spiders, etc., under the slates and hives. I think I should rather prefer our plan of setting the hives on four half bricks, and filling in and around with rather coarse gravel, especially making the entrance so the bees can walk right in when heavily laden.

A STRAY QUEEN REPLACING AN OLD ONE. AN EXTENSIVE MISHAP.

I am in quite a quandary. On going to the colony of my imported queen to remove a frame that I had inserted a few days before, for the purpose of having queen cells built, I found no eggs in the comb. I made a search for the queen, but, to my astonishment, found nothing but a young queen. This greatly puzzled me until, on examining a nucleus some 7 or 8 feet from the colony of my imported queen, I found that the queen was missing. Would it be reasonable to suppose that this queen, when on her wedding flight, entered the colony of the imported queen, and destroyed the queen? I cannot account for it in any other way, as she was a very active, prolific queen.

F. J. WARDELL.

Urichsville, O., July 9, 1880.

It is, quite probably, as you suppose, friend W., and the only remedy for such mishaps consists in having your hives farther apart, or having the entrances face in different ways. In our apiaries no two entrances are precisely alike nearer than a distance of 14 feet. At 7 feet, is the back end of another hive, and young bees often cluster on this, when we are standing in front of their own hive.

AN IMPROVEMENT IN THE CHESHIRE RAKES.

I enclose a sample of an improvement upon the "Cheshire Rake" as described on p. 309 of GLEANINGS for July. You will observe they are made very cheaply of a sheet of tin of proper thickness, and with no tools but a pair of sheers. To fasten into frames turn the ends of strips containing spurs at right angles, and they will hold securely.

D. A. JONES.

Friend Jones seems to have been the right man for the mission he undertook. He has secured new races of bees hitherto unknown to bee-keepers, and given us more new ideas of foreign apiculture than others of whom more was expected. I wonder if he has not some Yankee blood in him,—to accomplish so much, in so short a time, and in such a quiet manner.

MAKING FDN.

I should be pleased to have you describe your present method of manufacturing fdn., including the manner in which you purify your wax and the use to which you put the refuse, or footings, usually at the bottom of the cake when cold. I discarded the use of the metal dipping plates last season, as a tax on both time and patience; also in order to obviate the necessity of using ice to cool them.

Toledo, O., July 12, 1880. JOHN Y. DETWILER.

You are a genius, friend D. I had just got almost discouraged in trying to make the rakes for a cent apiece by the plan given last month, and I thought of tin bars, but it did not occur to me that I could get the points on them without soldering. Our hands went right to making them on the plan you gave us, just the minute your letter was put into my hands. We use the stiff IX tin, and, to get a stiff back to the implement, we fold one edge. As shown below:



DETWILER'S IMPROVEMENT ON THE CHES-
HIRE "RAKES."

We credit you \$1.00 for the idea, and, should they have a large sale, we will credit you more.

Our plan of making fdn. is but little different from that given in the the A B C, except that the wax is melted by steam instead of by a stove, and we use water pumped by the engine directly from the well, instead of ice. The wax is purified by the impurities falling to the bottom in both the melting and the dipping can. We select the dark wax to make fdn. for the brood frames, and the cleanest and whitest for the thin surplus fdn.

Thanks for the ladder to hold fdn. from sagging. I took strips of wood 3-16x $\frac{3}{4}$ in., and long enough to tack on the top bar and bottom bar, then drove $\frac{5}{8}$ in. cigar-box nails through for teeth, put 3 on the American frame, and it works to a charm. I put in sheets of fdn. that fill the frame full. V. PAGE.

Kennedy, N. Y., July 16, 1880.

No doubt but that your plan will answer, friend P. We have tried the strips of tin, and they work beautifully, and I think will be less liable to be waxed than either the wood or wire.

"IN THE DAY OF PROSPERITY BE GLAD, AND IN THE DAY OF ADVERSITY, CONSIDER."

This admonition I find hard to heed; for, when adverse things come, I am apt to think of something else. For instance, when I take a look through my bees, and find everything right, young queens laying, I feel proud; but when I look through them and find everything crosswise, and bees cross, then I get cross too. Do you know anything about such things? But what makes a bee-keeper feel better than to find his young queens filling the combs with eggs? Mrs. M. says that I must know just how many bees there are in every hive, I look at them so much. When she sees me hunting up the smoker, she usually says, "There you go to those old bees;" and if she wants me, she usually finds me among "those

old bees." The result is, I increased this year from 6 to 15, and have about 50 lb. of honey to date.

In last GLEANINGS, I see you are having some trouble with your customers. Now, I will tell you what I think I would do if I were you, and will take, to illustrate, the 500-section case, at your express office, that was sent back to you. I would make the company safe in every case, so they will have confidence in you, and I would take the expenses out of the money sent to pay for the goods, so far as it goes. With the case in question, take the package from the office, pay charges, and deduct the same from the money sent to pay for them. Of the first catalogue I received I could hardly tell head or tail, for I was green, and didn't know anything about bees. I finally, after some study, concluded I wanted a sample hive and the other things you offer for \$1.00. So I sent the money, and told you to send the goods. Well, they came by express, and the charges were 75c, nearly the price of the goods; but I paid it, have profited by the lesson, and will do some other way next time. I would advise all those ordering goods, to take them when they come, and if you can't afford to pay such charges, do some other way next time.

F. F. MCGLADE.

Centreville, O., July 12, 1880.

I guess I *do* know about "such things," friend M., and, if I mistake not, there are very few of our readers who do not. Thank you for mentioning it, for somehow we are so strangely influenced by each other, that the very fact of your mentioning your trials and temptations helps us to bear with ours. —I, too, decided it would be perfectly right and proper to do as you say about the sections, but somehow the voice of conscience said not. I had no peace, until I had paid the charges and sent the whole amount of the money back. Conscience (or is it God?) said like this: "You have been so strongly quoting 'Not by might, nor by power,' but if you keep back the amount of the expressage, contrary to the man's orders, you will be taking might and power both to fix the transaction to your liking. Pay the expressage, and send him back all of his money, but plead with him, and appeal, if you can, to him in such a way that he will voluntarily pay all or part of the charges back to you. If he absolutely refuses to do this, pay it yourself cheerfully, and trust God to make it up to you in some other way, if he sees proper; if not, consent to be so much poorer, and go on your way rejoicing." I followed this voice, and now I have got over feeling hard about it; I feel a great deal happier than I did when I had the money in my pocket, and had it fixed as I thought it should be.

DO BLACK BEES WORK ON RED CLOVER?

Yes; at least, they do here. In the summer of '79, it was so dry that the red clover blossoms were very small, and they worked on the first crop lively, but did not work any on the second crop. This summer the red clover blossoms are as large as common, and the black bees worked nearly as much on them as on the white clover. There was plenty of white clover, so it was not on account of scarcity of pastureage. These bees are pure blacks, and not hybrids.

JOHN C. GILLILAND.

Bloomfield, Ind., July 14, 1880.

Notes and Queries.

HARDENING PLASTER CASTS WITH ALUM.

I AM interested in the matter of dipping foundation. Porter, in his chemistry, under the head of "Aluminated Plaster" says that plaster casts may be made much harder by boiling the plaster six hours in strong alum water, and then calcining at a higher temperature than is used with clear plaster. It takes longer to set, but is more like marble than ordinary plaster.

I fed my bees till after the 4th; they are now getting a living. You need not, however, put me down in "Blasted Hopes" department, for I hope to be able to make a better report the first of October.

SPANISH NEEDLE AS A HONEY PLANT.

Bees in this locality never get enough honey from clover or basswood to be self supporting during the time they are in bloom. Our main crop is from Spanish needles, and is gathered during the last of Aug. and 1st of Sept. T. P. ANDREWS.

Farina, Ill., July 12, 1880.

[The plan you mention is well known, friend P., but the trouble is that alum is soluble in water, and the heat and water together, I think, would spoil all the efficacy of the alum. In regard to the Spanish needle, is it not a little strange that in localities where the ordinary plants fail, there is always something else to enable bees to make a living and prosper? Does it not seem, indeed, that God has made provision for them, in some part of the year, in almost every locality?]

D. A. JONES' APIARY.

I have had the pleasure of visiting D. A. Jones' apiary since I wrote last, and I tell you it was quite a treat. If I had been the President of the United States, I could not have received more kindness. I may also say that his bees are splendid, and are managed in a first-class manner. JOS. HARRISON.

Southampton, Ont., Can., July 12, 1880.

[I am very glad indeed to hear so good a report of friend Jones, but I hope our friends will not feel hurt, should friend J. not find time to entertain all of them in the way mentioned.]

LOSING MONEY BY THE MAIL.

I sent you, the 1st of July, \$1.50 for a dollar queen and ½ lb. of bees. As I hear nothing from it, I conclude it is gone. Well, if it has, it is my loss. I know better than to send money in an ordinary letter. I want the goods just the same. If you send the queen and bees, and have not received my \$1.50, just let me know, and I will keep sending \$1.50 until you do get it. C. E. MAKINSON.

Attleboro Falls, Mass., July 3, 1880.

[The above has a ring to it that gives one a faith in humanity; friend M., I thank you. The money was safely received and the bees sent, but still I thank you, for the noble stand you have taken, and for the rebuke you have given me, as well as the rest of us, when we get into that narrow selfish way of hanging on to the "coppers."]

HONEY FROM COTTON, ETC.

I notice in the communication in the July No. of GLEANINGS, from Louisiana, it is stated that bees did not visit the cotton blooms. In this country, as in Louisiana, there is much cotton grown. It is our

staple crop. I have been in the cotton fields within the last few days, to examine if such was the case here. I must tell you that the plants are swarming with the little fellows, which crowd into the outer calix to obtain the nectar from the inner calix near the base of the petals. They do not go into the central part of the flower, where the stamens and pistil are situated; however, they may do so at times to obtain pollen, as the flowers are very rich in this substance. I observed quite a large drop of beautifully clear nectar, of a mild pleasant taste, in each flower. You can imagine what a delightful time they have, and what a long harvest in this far sunny clime; for the plant begins to bloom the first of May, and it is not an unusual thing to see it still in bloom on Christmas day. I take pleasure in stating this, in confirmation of what you said in regard to plants yielding honey in some portions of our country, and not in others; I am satisfied that you are right. I enclose a cotton bloom, supposing them to be rare on your honey farm. J. E. LAY, M. D.

Hallettsville, Texas, July 14, 1880.

[Many thanks, friend L., and please accept thanks, too, for the large, beautiful blossom. It seems to me a cotton field must be a beautiful sight indeed. I presume we shall have to learn that honey comes at times in almost all blossoms, and, at other times, comes in almost none. The spider plant, for the past few days, has yielded so little honey that it might almost be called a failure; and it is somewhat the same with the Simpson; yet for aught I can see the weather has been extremely favorable. I am watching daily for it to come again, but it may not come at all again this season.]

BORROWING TOOLS.

Please send another of those 25c caliper rules. Somebody has borrowed mine, and forgot to return it; and as I was not in when he got it, I do not know whom to ask for it. W. KNOWLTON.

West Windsor, N. Y., July 14, 1880.

[You are a better natured man than I am, I am afraid, friend K., but I suppose yours is the better way.]

SPIDER PLANT.

The Spider plant is of natural growth here. It has been in bloom 2 weeks, but I have not seen the first bee visit it yet. We left a great many plants in our cotton; but, lo! it's that much lost, unless some one wishes seed. It has ripe seed now. I would like to know the experience of other beekeepers on this subject. D. S. BETHUNE.

Snyder, Ark., July 13, 1880.

SPIDER PLANT, ETC.

Hurrah for the Spider plant! Some of the blossoms have just opened, and, sure enough, the drop of honey is present too. Figwort is a little backward, but I expect some blossoms. The honey season has nearly closed; drouth is the cause.

PRESTON J. KLINE.

Coopersburg, Pa., July 15, 1880.

WILD BEES IN TEXAS.

Almost any day, I can cross over the river, into the Indian Territory, and find 6 or 8 bee trees. They are very plentiful in the Choctaw Nation, along the banks of Red River, and, strange to say, the Indians hunt them scarcely any. CHAS. A. DENISON.

Anna, Red River Co., Texas, July 14, 1880.

CHANGING OLD HIVES INTO LANGSTROTH.

By altering the "Mitchell" hives into Langstroth's, they will hold just 9 Langstroth frames. Is that sufficient, or should they be made to hold 10 frames?

DR. C. D. LEWIS.

Dry Ridge, Ky., July 3, 1880.

[Nine frames will do very well, but I would fix the top so it will take a Simplicity cover, and then you can at any time set a Simplicity over it. We have recently fixed some 8 frame hives in the same way.]

SUMAC.

Have you a patch of sumac? If you have not, you certainly should have; for you will be surprised to hear the little pets "hum." I think it rich in honey.

PRESTON J. KLINE.

Coopersburg, Pa., June 25, 1880.

[We have a patch, but they are not yet bearing flowers.]

BEES BY THE POUND BY EXPRESS.

I send you one dollar queen, in a box of bees to-day by express. For long distances, I prefer this style of package to anything I have used or seen described; and even when put up thus carefully, the express folks sometimes kill the bees. For short trips, I use a single box 6 in. wide, instead of 4 in. They will carry 1 lb. of bees very comfortably. Please criticise. We want something cheaper, and something with which the carriers can play "foot ball" when they feel like it.

E. M. HAYHURST.

Kansas City, Mo., July 7, 1880.

[Thanks. The bees came to hand in excellent trim, as they, in fact, always do from you, friend H., and as the package is exactly what we have adopted for ½ lb. of bees, it is the same as shown in our price list, only a little larger and heavier. We too, have adopted candy and water, only we shall hereafter use a tin water bottle, on account of its being easier to fasten to the cage, as well as cheaper. Have a little more charity for the express companies, friend H.; they have their trials too, as I happen to know.]

TURNING A QUEEN CELL UPSIDE DOWN.

Does it injure a queen cell to turn it upside down, say the 10th day? Mr. Brink and I have an argument on the question. I am raising queens, and find it a first class job to get good bees.

Fayette, O., June 21, 1880.

N. E. COTTRELL.

[I do not think the position makes any difference after the queen is fully formed, say the 8th or 10th day, and I am not sure that it makes any difference at any time. I think temperature has much more to do with the development of the queen, than position. If you get the cells a little outside of the cluster, and they get slightly chilled, you will be very likely to have queens with imperfect legs and wings.]

MARKET VALUE OF QUEEN CELLS.

What are queen cells worth, ready built, for the lamp nursery? I want to make arrangements with my cousin to build them up in his hives ready for the nursery. I have only a few full colonies, and I am working those for honey, so they can't build up cells.

L. A. BEST.

Best's, Pa., June 2, 1880.

[Among our neighbors we rate them at 10c each. They can be safely carried from one apiary to another just before hatching, but, at any other time, a little jolting or turning upside down may kill the immature queen, or do such injury as to produce wingless or legless queens. It is a great convenience among neighbors to thus exchange, and thereby help each other.]

CLOVER HONEY.

I send by express to-day a very light section of honey, thinking it will stand the journey better than a full one. Will you identify it for me, and let me know? I have combs of it 2 inches thick, which look just as clear, when held up to the light, as the sample sent. Don't laugh at my section; it is a pioneer, made in 1874. I use them without separators, and get 95 per cent of my honey straight enough to crate.

F. DELLA TORRE.

Reisterstown, Md., June 19, 1880.

[Your sample is a beautiful specimen of clover honey, and, unless I am much mistaken, is from alsike or red clover. White clover has a faint flavor, peculiar to itself; but honey from the red clover seems to be nearly a simple sweet, and, if I am right, has at the same time a sort of rankness of taste, that the white clover has not.]

Have taken 1,000 lbs. of poplar, and 1,950 lbs. of sourwood honey to date.

J. F. MONTGOMERY.

Lincoln, Lincoln Co., Tenn., July 5, 1880.

BEES AND FRUIT.

Honey is scarce so far this season. Bees are nibbling at the Turner raspberries a good deal; they suck the juice all out.

P. UNDERWOOD.

North Lawrence, Kas., June 22, 1880.

TOADS.

Toads are very thick here, and they do catch bees. I put salt on their backs, and off they go, and keep going, and leave hives and bees and all alone. Try it and see.

I. R. GREEN.

Unadilla, Otsego Co., N. Y., June 28, 1880.

Bees are doing nothing. I have not taken a pound of honey yet. Last season, although poor, I had a thousand lbs. at this time. My hives are full of bees, but there seems to be no honey in any of the flowers, only enough to keep up heavy brood rearing.

Morrison, Ill., July 7, 1880.

F. W. CHAPMAN.

I built a Simplicity smoker last year, and it is just splendid. I built one of the Bingham smokers last week for a friend, but it cannot compete with my old one. Every body likes it. It starts off with a match in a little less than no time.

Violet, Ont., Can., June 30, 1880.

DAN. WRIGHT.

ABSCONDING OF NEW SWARMS.

Not more than one-half of my new swarms will stay in the hive, even when a card of brood is given them.

A. A. HARRISON.

McLane, Erie Co., Pa., June 26, 1880.

[This has been a very general complaint this season, friend H., but it seems to me, if I was where I could look into the circumstances, I would be able to find a reason for it. Have you carefully noted all the points to be looked to, aside from giving a frame of unsealed brood, as given in the A B C?]

BUILDING UP A QUEEN AND 1 LB. OF BEES.

In your opinion, would a dollar queen and 1 lb. of bees, if bought before July 1st, make a good colony next year? My brother and father are going into bees, and have also given me the fever.

Sharon, Pa., June 25, 1880.

G. L. WILLIAMS.

[I should think there would be no trouble in doing this by commencing at any time in the month of July, under ordinary circumstances; but there are so many circumstances to be taken into consideration, that I am a little loth to advise new hands to go into such a business. The queen should be prolific,

the honey yield should be constant, or feeding made to take the place of it, and the little colony should be kept going thriftily, right along, during the fall months. One of our small boys got such a nucleus one season, and although he said he had taken good care of them, I found them really weaker in October, when he wanted to sell them back to me, than when he first purchased them; so you see that bees will not, as a rule, take care of themselves under such circumstances. On the other hand, I have often made strong colonies from not more than $\frac{1}{2}$ lb. of bees and a queen, when started in June.]

Friend Root:—Our specialty in the bee business is queen raising, but honey gathering receives its share of attention also. Up to date we have taken between 3,000 and 4,000 pounds of honey and the harvest still continues. On the 30th ult. with one machine, we extracted 1,153 lb. of honey. Isn't that a fair day's work for one machine? Good wishes to you, and to all enterprising bee men.

S. D. McLEAN & SON.

Culleoka, Tenn., July 3, 1880.

TRANSFERRING CLASPS MADE OF WIRE.

Why would not wires bent like your transferring clasps, but made long enough to come even with the bottom of the frame, be an improvement in the transferring line? I have used them this spring, and like them the best of any thing tried yet. You can lay a frame on a board and fill it full of small bits of comb, then slip the wires on, and they are secure.

Donahue, Ia., July 5, 1880.

GEO. CURTISS.

[I have seen the same thing used, friend C., but as they were more expensive than the clasps, and no better unless you have many small pieces, they were finally dropped. Since the advent of fda., very few care to fuss with small bits of comb, which at best never make a really nice, and profitable comb to raise brood in.]

I will thank you for an Italian queen of your best quality, my colony being without the necessary parental influence.

J. B. SIMMONS.

Louisville, Ky., July 5, 1880.

Bees doing nothing. White clover is a failure.

Dundee, Ill., June 25, 1880. J. OATMAN & SONS.

ASILUS MISSOURIENSIS OR BEE KILLER.

Yesterday, as I was eating my dinner in my apiary, a bee-killer alighted on my arm, having part of a bee in his claws, and he was sucking it with his bill thrust into the abdomen of the bee. It was of the family *Asilus*. I had a good chance to observe him, and he answers the description in Cook's Manual. I was not before aware that they were found here.

J. E. CRANE.

Bridport, Vt., July 9, 1880.

If you can not supply my order now, let me know, as I need the articles immediately. We always wait till we get hungry before we cry for bread, and then you know—. The bees are coming in fast with double sacks filled.

J. B. GRAVES.

Richmond, Mich., July 7, 1880.

NATURAL QUEEN CELLS.

Some time ago I wrote, in reference to getting natural queen cells, that if you thought they were any better we would try for some. I have tried in ten different instances, and succeeded in obtaining natural cells, or have had the queen lay in them every time. The last hive was set on Monday, and this

afternoon 7 out of 8 were containing eggs or larvæ. Of the cells used this spring, 70 out of 100 were natural, or the eggs were laid in them by the queen, and I have 40 queens raised in that way now.

H. L. JEFFREY.

Woodbury, Ct., June 23, 1880.

[By the above, I suppose we are to understand queen cells built under the influence of natural swarming. Now, friend J., I hope you and others will carefully note whether these queens are more prolific and longer lived than those reared during the same season, from cells built where queens had been removed, or by forcing the bees to build queen cells. It is an old question, and, in years back, it has been up for discussion a good many times.]

MEETING THE DRONE MORE THAN ONCE.

That imported queen died last Sunday night. They now have a young queen; she mated to-day the second time. I have known *three* queens to do this. The last queen you sent is doing finely, so your earnest wish is granted. I have about 20 cells from her,—great, long, nice ones.

O. F. BOWEN.

Randolph, N. Y., July 8, 1880.

SAVING BEES THAT ARE TO BE KILLED.

I want to transfer a lot of bees that my neighbors are going to kill. I want to know whether I can save them or not by using combs or brood.

J. H. BURRAGE.

Concord, Cabarrus Co., N. C., July 5, 1880.

[You can, my friend, make the best kind of colonies by taking bees that are to be killed and giving them combs of sealed stores. If there are plenty of bees, you do not need any brood, for almost any sort of a queen will quickly furnish combs of brood if she is supplied with bees and combs of stores in warm weather. By all means, take the brood if you can get it. I should call sealed brood worth a little more than bees, because it soon will be bees, and young bees too. You will want a pretty good supply of bees with each queen, especially if you have no brood, as many of the bees will be old, probably, and soon gone. Start them to brood-rearing, and keep it up until cool weather. It may cost something for feed, but still, it is much cheaper than buying bees in the spring.]

BASSWOOD HONEY.

Basswood has given us a good yield of excellent honey, the best I have tasted for ten years. It is now about ripe.

F. M. MILLIKEN.

Indianola, Warren Co., Iowa, July 7, 1880.

FROM OUR OLD FRIEND FRANK BENTON.

Friend Root:—I meant to have written to you before Mr. Jones left, but was very busy. Now I have ophthalmia and cannot. If my "better half" were here, she might write bee articles. I sit in a dark room much of the time, and think of dear old America. Kind regards.

BENTON.

Larnaca, Cyprus, June 22, 1880.

EARLY AMBER SUGAR CANE.

The early amber is booming. It is the admiration of all who see it. It is heading, and will be ready to make up the last of this month or the first of August, which is at a time when the cotton crop is laid by. The sorghums in use here ripen about the time cotton-picking begins. Bees throughout the country are doing well.

C. C. SHIPP.

Spring Dale, Miss., July 6, 1880.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, AUG., 1 1880.

He stretcheth out the north over the empty place,
and hangeth the earth upon nothing.—Job. xxvi. 7.

We clip the following from the *Sunday School Times*:

The Department of State, the large mercantile establishment, or the world-famous professional man, returns a prompt reply to your question of business; while it is the cheap cobbler or the cross-roads lawyer who keeps you waiting for a month, and dis appoints you at last.

SPIDER PLANT.

A VARIETY of reports have been received in regard to the spider plants. With some, they have yielded honey a few days and then stopped suddenly as with us; with others, they seem to yield right along. Some of the friends I fear do not get up early enough to see the honey. Below is the best report we have had, I believe.

My bees are making honey fast from spider plant. If I live until next spring, I shall put out a good lot of them.
Enfield, Ill., July 12, 1880. G. A. WILLIS.

The seeds of the Spider plant, which you sent me, all came up nicely, and are now in bloom. That "yarn" you told in GLEANINGS about dipping out the honey with a spoon, when I read it, smelled a little like the leaves of what we call out here the "fish" geranium; but when I saw great drops of honey standing on the flower, and even dropping on the ground, the odor changed to that of the fragrant rose geranium.
Bryant, Ill., July 15, 1880. A. CALL.

We have now demonstrated that seeds sown in the open ground will produce nice plants that will blossom in August. Those raised indoors will blossom perhaps a month earlier.

THE THREE-DOLLAR QUEENS.

I HAVE been taken to task for advertising that our \$3.00 queens are all taken from our own apiary, and then getting them from a neighbor, as I publicly admitted in last month's Growler. I shall have to plead guilty. With my multitude of cares, I sometimes forget just what I have promised you, and, in this case, finding myself entirely unable to find queens enough in my own apiary, up to the \$3.00 mark, I went to neighbor H. for some. Neighbor H. is a brother-in-law, has over a hundred colonies all from imported stock, and, in fact, has wintered a number of my imported queens for me, when I had not room for them all. He is an enthusiast on nice bees and queens, and has been remarkably successful; has no blacks or hybrids at all, and has gone to the pains and expense of Italianizing nearly all of his neighbor's bees which I have not done. Was my offense a very grievous one?

AN AWFULY "BIG BLUNDER."

YES; and I made it too. When I wrote the A B C, I made up my mind I would not copy from anybody, but that I would have it, as far as possible, the results of actual experiments made by myself. For instance, when I got ready to write bee-hunting, I went out into the woods and fields and hunted bees for several weeks, that I might give you correct instructions. The value of this paper was soon made manifest, by the universal thanks of the people. I tried to do the same with all the rest of it; and when

I wanted to tell you about the hatching of bees from the egg, etc., I put a comb into a hive, and noted the appearance of the first egg. The date was then written on the top bar of the frame, and the date again when the first egg was hatched into a larva. When the first cell was sealed over, I was on hand, and noted the time again, and found, as I supposed, that it was 6 days and 7 hours from the time the first egg was laid, and so reported it. It appears, however, that I made a big blunder in my computations, or "hieroglyphics," and that the 6 days and 7 hours was the time from the first appearance of larvæ; at least so friend Doolittle says in the *July Exchange*. When I wrote, I made this remark, which you will find in the A B C:

We are all of us too ignorant, by far, in this matter, and I suggest that we set to work and investigate the matter thoroughly. The eggs of the common fowl have been broken, and drawings made of the embryo, every day from the 1st to the 21st. Can we not do as much for the science of apiculture?

The offense is a grave one, I know, but four years have passed, and it would seem no one has before noticed it. I am very much obliged indeed for the criticism, and, as friend D. is a sharp, keen observer, I will pay him \$100.00 to go through the A B C in the same way, and pick out the mistakes, and he may have them published in any journal he chooses. But I really do not believe it is best to take a body's "head off," though he is sadly at fault. If friend Nellis and friend D. will write a book covering the ground that the A B C does, perhaps they will have a little more charity. I did not know before that I had contradicted Mr. Quinby, or I should have looked into the matter more. The work was mostly done, at a time when I was crowded with the cares of a large business, as you all know. Friend Nellis says he has been sick, and it may be that somebody else made those editorial remarks. Never mind, friend N., although the words stung and hurt, perhaps they will do me the more good; but will not the people think we editors are not living in brotherly love?

NOT PUTTING ON YOUR COUNTY.

THAT is just what I am going to "scold" about this time. You know I told you before that the Express and R. R. companies have recently decided to refuse any package that does not have the county, as well as town and state, plainly marked on it. This they have decided to do, and I think wisely, that they may not be blamed and asked for damages, when goods go off to some other part of the state, to some town of the same name. It is a lamentable fact that, in almost every state in the Union, there are two or more towns having the same name. I know of three towns in the northern part of our state by the name of Van Buren, and there are one or more Van Burens in about every state in the Union. The postal department have tried in vain to abolish this, and as the only way was to change the name of these extra towns, it has been done, but the people with a sort of mulish indifference, it would seem, persist in calling their town by the same old name, and do the same in dating their letters. The postal guides, with which each of our clerks is provided, give of course only the one P. O. in each state. We have nothing else to go by, and can have nothing else, unless it is the Express company's books. Wisely, there are no two counties in the same state of the same name, and if you only give your county, you may call your town almost any name and we can find you. If you do not give your county, we are obliged to go to the postal guide, and put on the county given there, even though it may send your goods the whole length of your state wrong. This has happened a great many times this summer, but, my friends, I can not see how I am in any way at fault, while you persist in refusing to give your county. I would once more suggest that everybody who is big enough to do business have some envelopes and postals with his name, town, county, and state printed on it. If he won't do this, and forgets to write it, it looks to me as if he ought to be made to stand the consequences of mistakes and blunders of this kind. I made up my mind to say I would not be responsible unless you gave your county, but I feel so sorry for everybody who has trouble by forgetfulness, and because I have so many times of late talked to you about saying what you *will* or *won't* do, that I guess I will not set a bad example, even if the circumstances are trying. May the kind Father above help us all to get along in business and not get mad or be stubborn.

Our Homes.

Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy strength, and with all thy mind; and thy neighbor as thyself.—ST. LUKE, x. 27.

IN my last, I called your attention to the fact that a drunken man, or one addicted to intemperance, almost invariably has such a bitter hatred of God, God's word, and God's people. You are perhaps aware that it is not intemperance only that begets this hatred, but sin of any kind. Let one do anything that his conscience tells him he should not do, and straightway he begins to feel a hatred to God, and Godly things. The very nature of God is such that it cannot well be otherwise. Perhaps you may say you do not believe as I do, and that your opinions you have a right to; that you do not believe in fire and brimstone, and such like stories. Very well, you *have* a right to your own opinions, and I have no right to dictate to you what you should or should not believe. Instead of wasting time in regard to differences of opinion, let us see how much we do believe in common. Perhaps we can almost all of us agree to all that is really important, if we will promise to be honest, fair, and candid.

You all believe in God who created this universe,—this world of beauty, and who made us as well? Some few I have seen, a *very* few, who said they did not believe this, but, after a little talk with them, they have always agreed that the world was planned and directed by some overruling power of some kind. Suppose a man, or boy either for that matter, should look over the machinery of a watch, and, after having it explained to him that he might understand something of the wonderful ingenuity employed in adapting each part to its proper work, should coolly exclaim that he did not believe anybody made it, but that it came by chance, or happened so. What would you think of such a person? Well, it is this ruler, or creator of the universe, that we call God. I am sure I have the consent of you all, have I not?

Now let us take one more step. For what purpose was this world or universe created? What end had he in view? We might say the same of the watch. If we turned it over and looked on all sides, we should find it had a face with figures on it, and hands that moved. If we watched these hands as they moved from figure to figure, we might, if we were patient, in time learn that they bore some relation to the movements of the sun, and, finally, that the sole purpose of the watch was to measure time. Let us look at creation in the same way. What is it for? What object had God in making it? For whom was it made? The ground furnishes a good place for grass to grow, and the grass that grows furnishes food for the horses and cattle, but what then? Does it seem rational that God should go to all this pains and trouble, solely that horses and cattle might live and enjoy themselves? Suppose horses and cattle were the sole occupants of this

earth. Do the horses or cows ever contemplate God as their creator? Do they ever cast their gaze on the moon, wondering whether it is a world like this or not? Do they, in fact, ever think of the world they are in at all? or do you think it likely that there ever lived a horse or cow, which ever had a thought as to what the size of this world might be? To be sure not; such speculations are arrant nonsense. Please imagine, if you can, what this world would have been, with only these dumb friends of ours to people it. Think of the awful—stillness?—is that the word?—of a universe without a sentient being to contemplate it. Animal and vegetable life might go on; Darwin's theory of evolution might pass through its different stages, as the years roll on; and the planets in their realms of space might move with their accustomed regularity, even though no telescope was brought to bear on them, by feeble, puny man; but would it not all be but a sort of empty nothingness, if no brain and intellect were present to contemplate it all? Man has now, in this nineteenth century, just begun to open his eyes to the fact that these things are within his grasp. Does it not seem as if God had decided that the appointed time had come, when we, his children, are capable of being led on into paths, or up to summits, where we may see more of him, in his infinite greatness, where we may contemplate him, as he is?

A few days ago, Caddy went out in the morning, and brought me a nice harvest apple, with the words,—

"See, Papa, see this nice apple. It just fell off the tree."

"Yes, my daughter; do you know how it came on the tree?"

She opened her blue eyes wide, as she looked first at me, and then through the open door to the tree laden with apples.

"Does my little girl remember a few days ago, when the tree was full of nice posies, that the bees got honey out of?"

Her face lit up as she caught the thought; "Yes, Papa; I 'member."

"Well, these apples grew out of those great pink flowers. God made them grow. Have you noticed the apples, how they grew bigger and bigger every day?"

She nodded. "Well, God who made the apples, made also the apple trees, and made all this great world, full of apple trees, and every thing pleasant, for people that are good and love him. Caddy, how large do you suppose the world is?"

Again she looked out at the open door, and off at the blue sky, and seemed lost in wonder at the idea, that she was beginning to grasp pretty clearly, for a chick of two and a half years old.

Now I am coming back to you my friends. Down in the lot by the pond is a pretty sagacious horse. At least I think so sometimes when I want to catch him, and he won't be caught. Let us call him up.

"Jack, look here. How big do you suppose the world is?"

Jack looks up at me, and looks bright and knowing. Can I, by any power on earth, teach him—a horse 10 years old or more—to

grasp this thought, that a little child took so quickly? Did ever a horse live that could do it? Did ever a horse live who could reason far enough to know that the grains of corn he helped to put into the ground would, in a few month's time, bear stalks with ears of corn on them? The horse will reach out for the corn in any stage of its growth. You all agree, I am sure, that the horse is far, very far, in fact immeasurably below, in point of intellect, the smallest child. Every Sabbath afternoon I have a very pleasant Bible class down at our county infirmary. Last Sabbath, I told them the little story I have told you above. Now, many of these people are dull of comprehension, and some of them feeble in intellect, but they caught the idea at once, and saw the great gulf that exists between man and animals, as their answers clearly indicated.

My friends, I have told you this to show how far beneath man the whole animal kingdom is; how utterly incapable any of its members are of grasping the simplest thought, beyond food and bodily comfort. The animal kingdom is far beneath us. Very well. Now, do you know of any class of beings that is above us? Is there any thing in the universe between man and the God who made him? Think a moment. Is it really so that man stands alone, supreme, next to God himself? Look about you; cast your eyes over the face of this little earth, and tell me what you think man will accomplish, in the process of time, with his God-given intellect. It is true, he has not traveled to the sun, but he has measured the distance; and, within recent date, he has had the audacity to tell what kind of fuel is burning in the sun 95,000,000 of miles away, that makes a heat sufficient to send warmth to a family of worlds. Within a few days many of us have seen how it is now possible not only to carry the very tones of our familiar friends thousands of miles away, but to be able to bottle them up that rising generations may know what the voices of their great, great, great, grandmothers were like. Where is to be the end? If God did not make this world for mankind, solely for such as you and I, what did he make it for? What other motive had he in making a world or a universe, than that it might be a pleasant place for us his children? for man, the highest and crowning work of his creation, were all these things made. Well may you be dazzled and stunned at the thought. For what did he put us here, and what end did he intend we should fulfil? If the universe is solely for us, is he not pleased to have us study and learn of him? Is he not pleased here to-day, to see us studying the curious little honey bees, that we, through them, may know more of him? Is it probable, nay farther, my friends, is it possible that this great being who created us, as the crowning work of his hands, has lost interest in us after the work has proceeded thus far, and now leaves us to be victims of chance, or still worse, the victims of the evil there is in our own natures. Does God care whether you and I choose voluntarily eternal ruin, or eternal life? He has given us freedom in the matter, in fact, a freedom that is

so nearly akin to his own, that we can, if we choose, to a certain extent, and for a time, defy him and his laws. If God had not given us the liberty to be lazy if we wanted to, how could we know of such a thing as commendable energy and industry? There would be no virtue in being truthful, if it were not in our power to utter a falsehood. Do you not see there is an extreme both ways, in all these things? There can be no virtue without the possibility of a vice in the opposite direction. Man could not grow, develop, and reach upward toward God, were it not for the evil he has to contend with. There can be no reward for well doing, unless there is a possibility of doing ill along with it. In my talk, you will observe I have tried to show you God as a near relative. No sort of relationship is conceivable, so near and so closely interwoven if I may use the term, as that which should exist between man and his creator. The very thought of it causes my heart to leap and bound, when I get these occasional glimpses of God and his greatness. A great king might be your friend, and he might cause your heart to overflow with joy and gladness by his liberal way of remembering all the little acts you had performed in trying to serve him. Suppose this king's name was derided and maligned, and he was falsely accused of things that were most foreign to his nature, and you alone stood up for him against a rough, coarse rabble. Although you were small and weak, and had little or no influence by throwing your poor weight in, in his defense, yet suppose he should hear of this, and should, for the loyal spirit shown, give you a princely mansion, where you could be near him, and stand by his side day by day, while he wielded the affairs of nations; what would be your feelings toward him? In the case I have mentioned, you might be jealous of this great favor, should somebody else do him a similar service, and be similarly rewarded; and, for this reason, all earthly pictures of God utterly fail. One who learns to know and love God, *never* wants to keep that great love all to himself. Just in proportion as he learns of God, does his heart soften to his fellow men. Jesus had it exactly right, when he uttered the beautiful words of our text. There is always room near to God, plenty of room.

I know how this word "love" strikes on the hearts of many of you. When I was in my teens, and rather felt myself too large for the mother's kiss of my boyhood, I began to get the idea that love was something that mothers should have for babies, husbands for their wives if they chose, or school girls for each other. It sounded "soft" to me then, especially after I had been talking with some of the fast boys of our town. Pious old ladies used to talk about the love of God, and, if I remember rightly, about something at their meetings called "love feast." Please do not think now that I am finding fault, for I presume they were all right, and I was all wrong; but somehow it struck my ear with disgust. In fact, it used to sicken me toward all things sacred and holy. I was bad and wrong, I know, but,

for all that, I cannot help thinking Christian people should beware of using too many of these set phrases and forms of expression that are so very apt to disgust those who are unfamiliar with their real meaning and intention. I was growing up a skeptic, because I did not see religion applied to real work, as I could see men make use of a steam engine. Let us go back to the subject of love to God.

Suppose the president of the bank should come to you, a poor boy, and ask you all about your bees, look over your books, examine your hives, and then talk to you about your plans in life, and finally tell you that he thought your honest hard work should be rewarded; that he would furnish you the means to get you out of your present pecuniary embarrassment; and, furthermore, that he would stand by you, and see that you got into no trouble, and that your work should not be stopped through the lack of necessary means. Would you not love that man? Not because of the money he furnished, but because he could understand and appreciate you, when no one else did. His practiced eye saw at a glance that your head was clear, that all your plans were well laid, and not the crazy projects of an idle boy, as some of the neighbors expressed it. He walks by your side down the street; the very act changes the attitude of the whole town to you in an instant. He is old and has weight, not only in your own town but in the whole county and state, and he believes in you. He introduces you to people whom you have never met and never expected to meet on such familiar grounds. Work opens up before you; and, at times, you rub your eyes to see if it is a reality, and not a dream. Through his influence, your humble work is brought before the great minds of the day, and you almost tremble as you are introduced to great authors whose books you have read in your humble retirement, but whom you had never expected to see face to face. It has all come through the untiring kindness of this great, true friend. Of course you had been honest and hard working, and had patiently taken your humble lot, and made the best you could of it, but how would you have succeeded at all, without him? My friends, what should your attitude be to this friend? Does my little story, which is not *all* fiction, make any plainer what love to God is? Would you not die for such a friend, if a time should come when it were necessary that your poor life should be given?

What should the attitude of man be toward his creator? Is not God what I have pictured him? If not, go over the ground again, and see wherein I have been at fault. If God is not that, picture God as you would have him, and then answer the question,—is your attitude toward the God of your own belief just what it should be?

The poor boy I have pictured had a heart that was in harmony with his kind friend. Had it not been so, his friend could not have given him such help. My friend, your life may be in harmony with God, and, when it is, it will also be in harmony with your fellow men. When you are in a respectful and

obedient frame of mind toward God, you will be at peace with him, and at peace (with proper qualifications) with your fellow men. One who deliberately takes God's name in vain, cannot be in a right attitude toward him; if I am correct, neither can one who is bitter or uncharitable toward his fellow men. If I am right, deliberate hostility toward God indicates, as a general thing, a guilty conscience; and deliberate hostility toward those who make a public profession of Christianity also indicates that Satan holds a mortgage, as some one has expressed it, in some shape or other, over the individual who gives utterance to such uncharitable thoughts. I have of late, been led to conclude that Satan is about as well pleased when he can get a person started in thinking all the world dishonest, as when he secures a victim through intemperance. Here is a letter from one whom I have long regarded as a friend, and whom I regard as a friend still, but I fear worse things are in store for her than she mentions, if she does not wake up and get over such uncharitable thoughts.

Mr. Root:—The things have come, and here is the 70c you demand of me, although I can prove that the said letter passed the third office from here. I—we—have done a "sight" of gratis advertising for other people, bee journals, bee fixings, &c., and been general amanuenses, in such matters, for the whole community (*usually* paying the postage), and the *privilege* of paying this extra 70c is one of the happy-fying results. This summer we have lost several hundred dollars through the honor and kindness of others, and find the case looks about "thusly" now: Both of us sick and discouraged, nearly two hundred dollars of borrowed money to meet, having to hire almost everything done, a steady decrease in valuation of property through others, because we are too ill to attend personally to affairs, and an ominous glimmer of poor-house portals in the near future, unless affairs mend rapidly. Another point tending strongly to increase our faith in the pretensions of humanity is, every fraud perpetrated upon us or our effects this whole season has been invariably by some church attache especially "loud mouthed" in his assertions of spiritual and moral superiority "through the blood of Christ." I leave you to draw your own inference as to the conclusions, merely suggesting that perhaps you would not blame if I sighed because he did not shed "blood" enough to drown the wretches entirely. Well, our lessons are *dear* ones, but one clause fully committed is "Never recommend other people's business again (with a few honorable exceptions); never transact business for others where they can shirk any responsibility on to me." I'll not say quite yet, "Never accommodate a neighbor," but don't know how soon I shall, if many more denouements occur.

July 8, 1880.

CARRIE P.

The above name is one I substituted for convenience. Now, friend Carrie, that I may not make one more in your list of hypocritical professors of love for Christ, I will beg you to accept the 70c back again, and allow me to furnish your friend the things without any recompense whatever. The first intimation we ever had that you had sent money, was the following:

Eleven days ago I sent you cash for a Parker fdn. fastener, and a Novice, cold-blast smoker, and am getting anxious, as I hear nothing of it.

June 27, 1880.

C. P.

A search was made the same day, for any trace of such letter's having been received, and, failing to find any, we packed up the goods and sent them, without waiting to hear from you again, fearing the want of the goods might be much more than the worth of them. We also wrote you the circumstances. The goods went July 2d. Could I possibly do more?

On the 8th of July came the following:

Three weeks ago next Thursday I sent you cash for a Parker fdn. fastener, and a Novice, cold-blast smoker. I have also written once since, but hear nothing from either. The articles were for another person, and I must refund his cash. Did you get the money?

July 6, 1880.

C. P.

This was promptly answered also. Were you not a little impatient, my friend? I too, have had some trying experience with humanity, but, with a hundred in my employ, and customers that number several thousands, I have not formed quite so bad an opinion as you have, and I believe I have had to do with almost all classes. I am afraid, if you will excuse me, that I have been *most* sorely tried with those who have refused or objected to standing half of the losses; but, thank God, I feel pleasantly toward all of them now. You evidently have decided that I have received the money and kept it, for you say those who have wronged you are professing Christians, and you have no means of knowing that any of my clerks are such. Our mails are all handled by those of your own sex. No man or boy touches the letters at all. Could you take a look at them now as they are bending over their work, I think you would agree with me that anybody would be insane who should for a moment suspect them of any such dishonesty. You have been serving a whole community, besides us editors. Candidly, friend Carrie, is not that a little exaggerated? Would you yourself let people do business for you, without thinking of at least protecting them from loss in the matter? and is it not likely that you are about a fair average of the people around you? If mankind are unthankful, it is likely you are too, is it not? Can you not, if you stop to think, remember favors they have done you, that will about balance all you have done for them? I do not wonder that you are sick and discouraged, and I have no doubt at all that you will go to the poor house, if you keep on in that strain; but it will not be because you have served humanity too much, but because you have served them too little. Never were truer words uttered than these:

Whosoever will be great among you, let him be your minister; and whosoever will be chief among you, let him be your servant.—Matthew, 20: 26, 27.

I do not mean necessarily, my friend, that you shall continue to do business for nothing, or that I would advise recommending people to go into bees, or to buy this and that. I would be very careful about giving such advice, but would rather hand them

the journal and price lists, and let them decide for themselves. If they ask you to do business for them, unless you get a discount on the goods so it is some object, and so you can afford to bear losses, I would suggest to them that, for many reasons, they would best do the business themselves. If they insist, tell them beforehand that there is a risk in sending money so, and have a clear understanding that you are relieved from all responsibility in the matter. It is often a kinder thing to refuse to do other people's business than to do it. But, suppose you have done it, and after pleasantly stating the matter to them, they refuse to bear the loss. In other words, how shall we get along with selfish people. I agree with you that the world in one sense is full of selfishness. My own heart is so full of it that it some days makes me almost sick, in my attempts to fight against it. What shall we do? Do as the old deacon did with the hams. If you can not get away by yourself where you can go down on your knees, say in your heart over and over, "O Lord, help thy weak and stumbling child to bear this new trial, and to pay this money freely and without any hard or revengeful feelings toward this brother, who seems just now so very hard and unreasonable." In a few minutes, you will be happy and smiling, and I have learned of late to really enjoy this giving up. Such prayers, if really thorough and in earnest, are always heard and oftentimes the money comes back tenfold. Still more; you are loving God and your fellow men as in our opening text, instead of hating. Do you not know, friend Carrie, how miserable one is when he gets to feeling bitter toward everybody? A very dear friend of mine said a few days ago that when he got really out of patience and scolded, it made him almost sick for nearly a week. In one way you go along happy, helping yourself and everybody else, while, in the other, you stop your own work or kill it out, and block the way, and hinder everybody else. Do you know how much we admire in others the spirit that "suffereth long and is kind," in spite of all that can turn up?

I once used to say that, if I wanted an honest man, I would go somewhere else than among Christian people for him. I do not now know what made me say so, unless it was when I got into one of those ugly moods that are prompted by Satan. Not long ago, I met a man who would stop and talk by the hour about the dishonesty of professors, and the faithful conscientious way in which *he* always did all *he* agreed. I employed him, but he left such a sad record of selfishness and inconsistency, that he has studiously avoided me ever since, although I have never reproached him for it. The attitude of real, earnest Christians whom I meet is seldom a boastful one, but rather in the line of "God be merciful to me a sinner." A few months ago, I asked for the names of pious people who would not pay their debts, but I have not received any yet. Several thousand people are now owing me money, and I can get my pay without any trouble of those who confess to a hope of salvation "through the blood of Christ;" but those who come right

out and say they will not pay, and tell me to get it if I can, are invariably the ones who declare they have no faith in God, man, or the Devil. Suppose I print the names of those who have refused to pay their debts, or even answer a letter of inquiry, during the past 20 years, and then let us find out whether or not they profess to be Christians. Will my skeptical friends consent to such a trial as this?

My heart warms toward you, my friend, because you have confessed to me that you have trials right in the very line where I have been tried so much, and I wish that I lived nearer you that I might show you the practical workings of the spirit that Christ taught,—of how it opens and broadens one's life, how it gives him power and influence, aye, and all that he can ask for here in this world, besides the safe, sure promise of a life of joy and peace in the world beyond this life. Put these temptations under foot, my friend. Reach up and accept the helping hand of that Savior of mankind, and step above these petty trials that would weigh us down. Your sex have been brave, strong, and hopeful, even when ours have been weighed down by doubts and distrust. Instead of discouraging your husband and those near you, you may be a strong pillar in the army of the Lord; in His name I entreat you to rise up and *help* poor, selfish humanity, instead of blaming them; help them in pity and love, even as Christ wept over Jerusalem, and you shall have treasures laid up in heaven.

KNOW then, soul, thy full salvation;

Rise o'er sin, and fear, and care;

Joy to find, in every station,

Something still to do or bear.

Think what Spirit dwells within thee;

Think what Father's smiles are thine;

Think that Jesus died to win thee;

Child of heaven, canst thou repine?

Haste thee on from grace to glory,

Armed by faith, and winged by prayer,

Heaven's eternal day's before thee;

God's own hand shall guide thee there.

Soon shall close thy earthly mission,

Soon shall pass thy pilgrim days,

Hope shall change to glad fruition,

Faith to sight, and prayer to praise.

Thanks for the insertion of my communication in *Our Homes* [June No.], and kind comments thereon. I send a word of rejoinder in the same spirit. You say, "God can not, from the very nature of things, answer the prayer of a lazy man." But you will of course defer to the following from Jesus: "With God all things are possible."—Matt. xix. 26.

Therefore, when God sees fit, he can not only answer the lazy man's prayer, but cause him to be lazy no longer. In like manner all mankind can be transformed into saints, and the millenium at once ushered in.

Now, friend R., if your theory of the efficacy of prayer is well founded, this consummation so devoutly to be wished lacks only a suitable invocation.

STEPHEN YOUNG.

Memphis, Mo., June 15, 1880.

Even the Bible, friend Y., must be taken with reason, and is to be interpreted by the sound common sense God has given us for the purpose. Jesus might have said, "With God all things are possible, *except sin*," but

would it not have been paying a poor tribute to man's intelligence, to have added those last two words? God can not save a man who is stubborn and willful, and does not want to be saved. Were such the case, man could not be a free agent, and would not therefore be responsible for his acts. There is no need to argue on this point; all mankind assent to it in their actions, if they do not in words. If you, friend Y., stubbornly refuse to accept God's offers of salvation, and refuse to listen to his pleadings with you, as did Cain, God himself can not save you, nor can the prayers of all the world convert you *against your will*.

A mother's prayers and pleadings are powerful in influencing her wayward children, but still they have the power to resist it all if they choose. We are praying for you, friend Y., and in answer to these prayers God will throw strong influences about you, but still the responsibility rests with you, to "choose this day whom ye will serve." Suppose the mother would refuse to plead with the wayward child, and give as an excuse that he would do as he *pleased* in spite of all she could say. By prayer we hope to induce people to "*please* to do right." If the father will unite with the mother in pleading with the child, the chances are much greater that he will yield, and if the brothers and sisters unite also, the chances are still greater. If all the inhabitants of a town will go one by one, or collectively, to a saloon keeper and plead with him to give up his business, it is *almost* beyond the power of humanity to hold out very long, and yet he yields of his own free will. Prayer is like this pleading; it wants the united hearts and voices of many, and your inference is right that even a lazy man can be made lazy no longer, providing *he* can be induced to yield, but it will likely require the prayers and pleadings of many instead of one.

I presume it is no more than natural, my friends, that you should have a desire to know what your friend, who has talked to you so long on these pages, looks like. I have been reminded of this, for some time past, by letters, or sentences in letters, something like the following which happen to be at hand:

We want to see the man who has accomplished so much by trusting in the Lord for help and success.

A. MCKEE.

Rockford, Wright Co., Minn., Nov. 29, 1879.

I received the A B C book I ordered of you, and it gave good satisfaction. I think all it lacks is your portrait in the front side.

ADDISON JONES.

Steamburg, N. Y., March 25, 1880.

Now, in giving a picture of myself and of our little girl of whom I have spoken so often, I do not wish to have you think we are anxious to put ourselves forward for your notice, but we come before you just exactly as I may some time do, should I come up the walk and announce myself as your old acquaintance from whom you have heard so often, but have never before seen. The picture is not as good as a photograph, it is true, but it is rather less expensive, for a

photograph for you all would have cost several hundred dollars, while this cost only \$85.

"Blue Eyes," now eight years old, is growing rapidly in wisdom as well as stature. A few days ago, as I passed the door, I was attracted by sounds of loud merriment. I looked in and found the cause was that Ernest had her Second Reader, and was holding his hand over the page so as to cover all the reading, but show the picture. In answer to my inquiry, they told me she could repeat the whole contents of each page, when shown the picture only. When I expressed incredulity the book was handed me, and I found that the child had indeed read the book through so many times, and with such intense earnestness, that, after once getting a view of the picture which accompanies

each lesson, she could repeat the lesson word for word, with scarcely a failure, from the suggestions which the picture gave. It is my love of pictures, my friends, that has prompted me to illustrate GLEANINGS as I have done, and I presume she inherits it. Last week one day, she spent the whole afternoon intensely busy, teaching school up stairs to a row of dolls. I will tell you, my friends, why I love her picture particularly. She was a year and a half old when it was taken, and it was those pleading, innocent blue eyes that did perhaps as much as any other one thing in teaching your poor friend to lift up his eyes, and recognize the awful chasm that yawned between him and his God, and helped him on his way from "death unto life."



NOVICE AND "BLUE EYES."

It has been said that editors never apologize; if they do not, I do, whenever I see I am wrong. I suggested last month, that bees might easily have been kept in the ark, as it was only 40 days and 40 nights, but it was before we had that Sabbath school lesson in Genesis. My friends, would it be a hard task, think you, for God, who created the bee, to preserve a queen and a few bees a whole year or more?

FOUR or five of my Southern friends will have it that I was discussing North and South, or politics, last month, whereas I only intended to discuss sin in the human family. Whatever sin there was rested on our nation, exactly as the sin of intemperance rests on our nation to-day. There is as little room for politics in my crowded brain, as there is for ill will or prejudice toward any one of you. If, in my awkward way, I touched on things that were better left untouched, please forgive me; will you not?

THE RED CLOVER QUEEN IN HER SECOND YEAR.

I HAVE been waiting to see the honey season slack up, that I might see if the red clover queen would sustain her character of last year for producing bees that would amass stores while others did not. I am very glad to say that her colony is the most industrious, with one exception, of a whole apiary of nearly 300. She lays fully up to any queen we have, and seems fully as prolific this year as last. This is another good point. Her bees are rather cross, but are finely marked, and her young queens are considerably lighter in color than those reared directly from our imported stock. Ernest vehemently urges that our whole apiary be supplied with her daughters. Although it is not probable that all would inherit this special tendency to amass stores during the fall months, it is more than likely that some of them would. As it is just as easy to raise queens from her brood as from any other, such queens will be furnished at our usual prices.

THE brush illustrated on page 376 is the nicest thing for brushing bees off a comb ever invented. Our boys threw away their quills, brooms, and bunches of grass and weeds, in a hurry, when they once got hold of one of them. They are so light and soft, besides being entirely vegetable, that no bee ever thinks of taking it as an affront.

I HAVE been for some time studying on a nail box for the different sizes of wire nails, but our boys and girls prefer the pretty little $\frac{1}{2}$ pint milk pans, to anything we can get up. It is easy to put the hand in them, and you can pile one in the other when they are to be put away, so that they occupy but small compass. Besides, nails are much less likely to get mixed, if you can take the dish of the kind you are using, and carry it right along to your work, away from the rest. By having a handle, like a basket handle, attached to the bottom one, you can carry a nest of them very conveniently. Price of a set of 5, one for each size of the nail nails most used, with the wire attached to the bottom one, 15c; price of the whole sent by mail, 30c.

TIN PAILS FOR HONEY.

SINCE glass is so high, many will doubtless use tin. For liquid honey, we prefer the cans mentioned in our price list; but, for candied honey, pails having a cover the whole size of the top are handier to get the honey out of. We can furnish such pails as Dadant uses, at his prices; viz:—

For 25 lbs. Honey.....	per hundred	\$32 00
" 10 " " " " " " "	"	14 00
" 5 " " " " " " "	"	10 00
" 2½ " " " " " " "	"	7 50
" 1½ " " " " " " "	"	4 00

Assorted samples of each size, all put up inside of the largest one, will be sent for 80c. The nest of five cans weighs only 3½ lbs. These pails are very handy for a variety of other purposes.

QUEENS THAT WON'T LAY, ETC.

I DO not know how others do, but if I should send out a queen that proved a drone layer, or whose eggs did not hatch, or one that did not lay any eggs at all (say after being in a good colony for a week), I should most assuredly send another free of charge. When I receive a dollar for a queen, I expect to return something of value for the money; but when a queen after a journey turns out to be like any of the above mentioned, she is of no value, and I shall make such good if it takes all of the profits and more too. The highest priced queens in the market are just as liable to turn out thus as the dollar queens, and, as they are generally older and less able to stand a journey, I believe a little more so.

LATEST NEWS FROM THE SPIDER PLANT.

YOU know I told you on page 369 that they had stopped yielding honey. Well, I was talking about it on Saturday night near 10 o'clock, and I finally picked up my study lamp, and declared I would go down to the field then and there, in the night, and see what the matter was. Matter enough; right there, glistening in the lamp light, were the well known drops, sparkling like diamonds, and giving off a perfume that fairly made the damp night air heavy with it. Some of the drops were so large, they were nearly dropping off, and we took them on the tips of our fingers, and had a taste all around. It was that same pure sweet of last season, but where does it go to? Large moths were humming from flower to flower, but they could not possibly take up a tenth part of it. I was up by sunrise next morning, but "nary drop." Did the bees gather it all so clean before that time, or did they take it by the bright moonlight later in the night. They work at night until it is too dark to see, but where does the accumulated nectar of the night go to? My friends, I am hard at work on the problem, just as I bid you adieu; and it must be unraveled if it takes all — night.

STILL LATER.

28th. — I am ahead this time. Last night was a little cooler, and I got up a little earlier, and had the pleasure of seeing the spider plants dripping with nectar. It is worth a day's work to witness the satisfaction with which an Italian licks up this big drop, and his apparent astonishment when he finds he can not contain it all is most ludicrous. If he ever shows three yellow bands, he does it then, you may be sure. They came in such droves that they had the whole field of flowers clean in about a half

hour. Our half acre of Simpson plants in bloom, I should judge, keeps 10 heavy swarms of bees busy from daylight until dark, while the $\frac{1}{2}$ acre of spider plants employs only — say two heavy swarms, for a half hour; but I tell you the latter make the best wages. Next season I shall plant more of both of them.

FEEDING EXTRACTED HONEY FOR THE PURPOSE OF GETTING COMB HONEY IN SECTIONS.

ALTHOUGH this can be done, and with but little loss, comparatively, as I have told you in the A B C, I should regard it as one of the greatest pieces of folly, for a bee-keeper to extract his honey with that end in view. Why not let the bees put it in the sections in the first place, and thus save them and you all trouble and waste? Another thing: extracted honey is almost sure to acquire a slightly unpleasant flavor; if it candies before it is fed back, this candying gives it another unpleasant property still, and after it is in the sections nicely sealed over, you have candied honey in the comb, instead of the usual liquid, comb honey. I have had comb honey in sections for the past three years, produced by feeding back extracted honey, and we are now selling it at 15c retail, while we get 20c, for that stored by the bees in the sections as they brought it in; and if more comb honey produced by feeding should be offered me, I would not give half price for it. If you do not agree with me, try it yourself; but I would advise you to try a little first.

QUEENS HAVING THE CRAMP.

YESTERDAY, Ernest brought me a beautiful queen, which, he said, had stung herself, just as he lifted her out of the hive by the wing, preparatory to caging her. I told him she was not dead, but in a sort of cramp or spasm; and that a young queen laying rapidly would often double up in that way when handled, apparently from fright. He left her caged over the bees a half hour, but she was still doubled up and apparently lifeless. She was then placed right among the bees, but he, I presume, had little hope she would ever be a lively bright queen again, as she was, although I assured him she would come out all right. After supper we looked again and she was marching around the combs as large as life and twice as natural, and as if to show us that she was not by any means dead, she spread her wings and sailed aloft. This behavior made him look almost as troubled as when she was doubled up, but she soon came back and was caged and sent off with a pound of nice Italians. I mention this, as some of you might be so thoughtless as to throw a queen away, when in a similar state. There are a good many "kinks" with queens, as well as with bees, as you see.

THE CYPRIAN AND HOLY-LAND QUEENS.

AT present writing (27th), none of the workers have hatched, although several queens are hatched. They are like the queens and bees received, so far as I can see, about a fair average in looks with our usual queens and bees imported from Italy. If anything, they are a little smaller and darker, but their long journey would naturally unfit them to show to advantage. Of course, a careful test will be made of the workers, as soon as they are old enough to gather honey. In regard to prices, it is true, it is as easy to rear queens from their brood as from any other, but, on the other hand, these queens have cost friend Jones a great amount of money and labor, and it is only fair that we should help him, by taking them off his hands, at such prices as he thinks right and proper. One of ours has failed and died already, and another has almost ceased laying; so you see everyone who invests has a risk to run. In view of this, I think double our usual prices for larva and queens is none too much.

Friend Jones has sent us some beautiful samples of Cyprian and Holy-Land queens preserved in alcohol. The workers are apparently extremely well marked Italians, except that a few show a portion of a fourth yellow band, and one single specimen, put in a vial by itself, shows distinctly a full fourth band. The drones are yellower than any I have ever seen before. Many of the bees seem remarkably large, but this may be owing to the refraction of the round surface of the vials. Whether these bees prove superior or not, I feel it a duty to buy and test them, to assist friend Jones and Benton in defraying expenses, if nothing more. At last advices, friend J. had sold out on the Cyprian, but had plenty of Holy-Land queens.

Humbugs & Swindles,

Pertaining to Bee Culture.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

FRIEND Harrison, of the *Honey Bee*, has a letter from Mitchell, in which he makes his old stereotyped excuses for receiving money and making no returns. He has been swindled by some one else, and been sick, etc., but is now going to pay up everything satisfactorily. The only trouble with this story is that Mitchell is still sending out circulars, and has been doing so all the time, that he may get more money to put in his pocket without any thought of rendering any equivalent of any kind. He is now located in Smithfield, Jasper Co., Mo., where he says he can raise 400 queens per month, if need be. If any of our readers are located near there, will they please report what sort of an apiary or establishment he has there. The suit alluded to in June No. never came off, for the very good reason that Mitchell never appeared. A great amount of evidence was brought up against him. For the present, I hope all of our readers will take pains to caution everybody, against sending any money in answer to any of his advertisements and circulars, and to brand every one who has the audacity to style himself one of Mitchell's agents as a swindler and a thief. There is abundant evidence now in print to back you up.

You may thank N. C. Mitchell for one more subscriber. I can thank him for your journal, as it was through him I got track of GLEANINGS. You saved me \$5.00, for I was about sending to him for a queen when GLEANINGS came and spoilt his bargain.

JOHN S. KING.

San Jose, Santa Clara Co., Cal., July 12, 1880.

MITCHELL.

I hope, if I send you money, you will not do as Mitchell of Indianapolis did a year since, with me. I sent him \$5.00; he acknowledged the receipt, but forgot to send the bees.

ROBERT TAYLOR.

Lawrence, Kan., June 28, 1880.

Your money is lost, friend T., but if you had taken a bee journal, you would have been too well posted to have sent Mitchell any money, during the past five years or more, and this would have paid for the journal, and you would have had all of the rest of the information free.

KIND WORDS FROM OUR CUSTOMERS.

I WILL tell you what good luck I had with the queen I got last July. It was six days on the road, and some of the bees were dead; but the queen was all right. I put the cage, for 24 hours, in a box hive where there was no queen, when she went to laying. As it was late, I gave them a cap of honey for winter, which was plenty, and they have increased so that I am looking every day for a swarm. They are large, yellow, nice bees, and work well. Italian bees are a curiosity here. People have come from all around to see them.

SAML. W. LEFACH.

Cromwell, Ohio Co., Ky., June 12, 1880.

The A B C book is worth \$5 to any bee-keeper.

E. A. BEACH.
Dysart, Tama Co., Iowa, July 17, 1880.

A B C at hand. I like it. I lost five queens by not sending earlier. I showed it to a neighbor, and he wants one. Find inclosed — F. G. MILLER.
Bonn, Neb., July 8, 1880.

I can assure you that the A B C book is worth ten times its value to any bee-keeper.

HORACE PARISH.
Weston's Mills, Catta. Co., N. Y., July 12, 1880.

QUICK TIME.

I got the queen all right, all the way from Medina, in just two days from the time I mailed the order. Thanks for promptness. W. A. SNIFFIN.
Spencer, Tioga Co., N. Y., July 16, 1880.

QUEEN received all right. I left her in the cage, on top of the frames, two nights and a day, introduced her in the morning, and she commenced laying the same day. THOMAS J. STINSON.
Pawnee City, Neb., July 8, 1880.

Your SMOKER arrived in due time, and works splendidly. Thanks for your promptness. My bees are doing first-rate, and bringing in lots of honey.

DELOS POST.

Barbour's Mills, Pa., July 12, 1880.

Your package of QUEEN, BEES, and FRAME, so nicely packed, is received in good order, and is already on its stand, with the bees going in and out at work. This is undoubtedly the very best and safest way of sending out queens. M. L. THOMAS.
Tacony, Philadelphia, Pa., July 13, 1880.

I received my bees all right, on the 19th, and put them in the hive the same day. They are at work. I put in 3 frames of combs. My hives are nearly like your Simplicity hives. Accept my thanks for the brood you sent me. JESSE HOOSER.
Hubbardstown, W. Va., June 26, 1880.

I received the dollar QUEEN this evening about dark, all right; only one dead bee in cage. I took a lantern, hunted out an old Italian queen, and caged the new comer on a comb. C. KENDIG.
Naperville, Ill., July 16, 1880.

[Well done, friend K.]

A. I. Root:—A B C came all right. You were right in thinking I needed it, and I was glad you sent it. I have appropriated every spare moment I have had for 8 days to the study of that valuable book, and am now very well acquainted with the theory of bee culture, but am lacking in experience.

ROBT. C. SIBLEY.

Fort Jessup, Sabine Parish, La., June 19, 1880.

The GOODS I ordered of you two months ago, I received about a week ago, all right except the fdn. You sent 1½ lbs. and charged me for 2 lbs. in the bill. J. B. BROGAN.

Oak Hill, Pa., June 26, 1880.

[The clerks wrote they knew the fdn. was put in, and told just where it was. Here is a second card:]

I found that ½ lb. of fdn. just where you said I would. Had I not got it at all, I do not think I would have had such a dream as Mr. Kress had.

Oak Hill, Pa., July 7, 1880. J. B. BROGAN.

My SMOKER is loaned out to a neighbor, and oh, how I need it just now to conquer a colony of unruly blacks! After showing my "cold-blast Simplicity" to a neighbor who has kept bees for years on the old, old plan, and always refused to be comforted by modern appliances in bee culture, he said he must have one of the little "smoke squirters" to use when he "robbed" his bees.

MILLARD BERRY.

Duck Creek, Dallas Co., Texas, July 13, 1880.

I received the GOODS in due time, and am very much pleased with the same. The fdn. works perfectly in my hives. It is a great boon to bee-keepers to be able to get so fine an article for so little money. The Alsike clover seed is also a splendid article. It is a pleasure to do business with so prompt a firm. I am only a beginner in the business of bee-keeping, but I hope to be better posted soon.

G. W. WILLIAMS.

Attica, Mich., July 8, 1880.

The Oldest Bee Paper in America—Established in 1861.

AMERICAN BEE JOURNAL,

Devoted to Scientific Bee-Culture, and the Production and Sale of Pure Honey. \$1.50 a year in advance. Send for Sample.

THOMAS G. NEWMAN,
8td 974 West Madison Street, Chicago, Ill.

ENDED!



The Interference Case between James Fornbrook, and Lewis & Parks, has come to an end, and the Patent was allowed to James Fornbrook, on the "Boss" One-Piece Section, no longer called the "Lewis" Section, and would have been issued had it not been for the application of Mr. Datzell's.

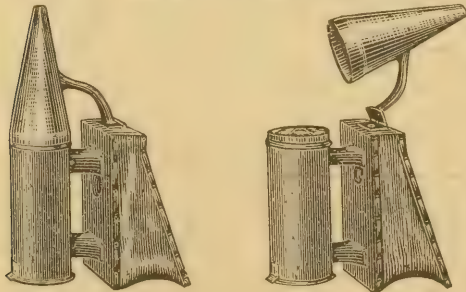
"Boss" Sections 4 1/4 x 1 1/4 \$6 00
" " 5 x 6 7 00

We will make the "Boss" Section any size desired. Full Colony of Italian Bees, \$6.00. Send for Price List. JAMES FORNBROOK & CO.,
August 1, 1880. Watertown, Wis. 8d

1880. EVERETT BROS. 1880.

Everett's Honey Extractors and Everett Langstroth Hives a specialty. We challenge competition in quality and price. Our circular and price list of Apiarian Supplies, Italian Bees, and high class Poultry sent free. Address—
8 EVERETT BROS., Toledo, Ohio.

QUEENS for 75 cts. each, three for \$2.00. Bred from a choice queen of A. I. Root's importation, by return mail. Safe arrival and satisfaction guaranteed. S. W. STEVENS.
8d Ridgfield, Fairfield Co., Conn.



Scovell's, Eureka, Cold blast, Bee Smoker is Boss. It is a cold blast or a hot blast, both at once or separately, at the will of the operator. It is the only cold blast smoker on the market that has no tubes or other complicated machinery in the fire barrel to interfere with filling and cleaning. Large size belows, 5 1/4 x 6 1/4 inches; fire barrel, 2 1/2 inches. Price \$1.00; by mail, \$1.25. Send for illustrated, descriptive catalogue and price list of Hives, Implements, and Supplies used in bee culture. Address—
7-11d SCOVELL & ANDERSON, Columbus, Kansas.

STRAWBERRY PLANTS

Pot grown and common ground layers, of all the best new and standard varieties including Sharpless, Crescent, Glendale, Windsor Chief, &c.

Potted plants will yield a good crop next June. For full information send postal card for descriptive circular.

R. MANN & SON,
Lansing, Mich.

7-9d

Cyprians

AT

\$10.00!

We now receive Cyprian Queens every 2 weeks via ITALY, and can sell them as follows:

Select Imported Cyprians, - - - \$10.00
Common " " " " " 8.00

Send for Supplement to our Circular.

CHAS. DADANT & SON,

Hamilton, Hancock Co., Ill.

8-9d

FOSTER'S QUEENS 85 CENTS.

Hereafter, 85 cts. for all untested, and \$1.50 for tested. Safe arrival guaranteed (see page 348).

8d OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.



Bingham & Hetherington Honey-Knife.

BINGHAM SMOKERS.

Extra Large Smokers, 2 1/2 inch, - \$1.50
Extra Standard Smokers, 2 inch, - \$1.25
Plain Standard Smokers, 2 inch, - \$1.00
Little Wonder Smokers, 1 1/2 inch, - 75c
Little Wonder Smokers, per 1/2 dozen, - \$3.00
Bingham & H. Knife, - \$1.00
Same with Cap-Catcher, \$1.25

If to be sent by mail, or singly by express, add 25 cts. each, to prepay postage or express charges. Send for circular. If to sell again, apply for dozen or half-dozen rates. Address

BINGHAM

&

HETHERINGTON,

8d

OTSEGO, MICH.

LEXINGTON, KY., July 14, 1880.

T. F. Bingham, Otsego, Mich.:

DEAR SIR,—We have sold out every Smoker we received from you last. Sold them and no others last year and this also, and have never had one comparable. They give entire satisfaction.

Respectfully,

WILLIAMSON & BRO.

Cyprian Queens

Mr. Julius Hoffman shipped me a frame of eggs, and a frame of sealed drone brood, June 23d, from which I have, July 9th, 77 Cyprian queens and 4000 Cyprian drones. Received imported queen from D. A. Jones, July 5th. No black or Italian drones in hives in my vicinity. Will sell untested Cyprian queens at \$2.00, or tested queens in one-frame nucleus for \$5.00. Extra bees \$1.00 per lb. Safe arrival guaranteed by express.

8-9d

J. S. HUGHES, Mt. Zion, Ill.

IMPROVED

Langstroth Hives.

Supplies for the Apiary. Comb Foundation a specialty. Being able to procure lumber cheap, I can furnish Hives and Sections very cheap. Send for a circular.

2td

A. D. BENHAM,
Olivet, Eaton Co., Mich.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For description of the various articles, see our Twenty-Fifth Edition Circular and Price List, mailed on application.

For directions *How to Make* all these various articles and implements, see A B C of Bee Culture.

This Price List to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of postage required.

To Canada, merchandise by mail is limited to 8½ oz., and nothing can be sent for less than 10 cents postage.

	A B C of Bee Culture, Five Parts complete in one, paper cover.....	1 00
	The same, neatly bound in cloth.....	1 25
15	Alighting Board, detachable (See A B C) \$	10
	Alsike Clover. See seeds.	
	Balances, spring, for suspended hive (60 lbs.)	8 00
	Barrels for honey.....	2 50
	" waxed and painted.....	3 50
10	Basket for broken combs to be hung in the Extractor.....	25
	Basswood Trees for planting. See price list.	
	Bees, per colony, from \$8 to \$16. See price list.	
10	Bee-Hunting Box, with printed instructions	25
0	Binder, Emerson's, for GLEANINGS.....	50, 60, 75
10	Blocks, iron, for metal cornered frame making.....	15
	Buckwheat. See seeds.	
10	Burlap for covering bees, 40 in. wide, per yd	10
	Buzz-Saw, foot-power, complete.....	35 00
	Buzz-Saws, extra, 80c, to \$3.25. See price list.	
60	Buzz-Saw mandrel and boxes complete for 6 inch saws (no saws included).....	5 00
	The same for 7 and 8 in. saws (not mailable)	7 00
4	Cages for queens, provisioned (See price list)	10
48	" per doz.....	1 00
	Candy for bees, can be fed at any season, per lb.....	08 to 15
	Cans for shipping extracted honey (See Honey), from 25c to \$2.00.	
0	Cards, queen registering, per doz.....	06
0	" per 100.....	40
60	Chaff Cushions for wintering (See A B C) ..	30
9	" without the chaff.....	20
	Chaff Hive (See Hives).....	5 00
2	Cheese cloth, for strainers, per yard.....	10
	Clamps for making section boxes.....	75
10	Clasps for transferring, package of 100.....	15
	Climbers for Bee-Hunting.....	2 50
	Comb Basket, made of tin, holds 5 frames, has hinged cover and pair of handles.....	1 50
	Comb Foundation Machines complete \$15 to 100 00	
10	Comb Holder to put on edge of hive.....	25
	Combs in metal cornered frames, complete	25
20	Corners, metal, per 100.....	50
25	" top only, per 100.....	60
15	" bottom, per 100.....	40
	Corners, Machinery complete for making \$250 00	
	Crate for shipping comb honey. See Hives.	
40	Division Boards of cloth and chaff.....	20
12	Duck, for covering frames and for feeders, 20 inches wide, per yd.....	20
15	Enameled Cloth, bees seldom bite or propolize it, per yard, 45 inches wide, 30c. By the piece (12 yards).....	28
	Extractors, according to size of frame, \$6 50 to 10 00.	
	" Inside and gearing, including Honey-gate.....	4 00
	" Hoops to go around the top.....	50
	" per doz.....	5 00
5	Feeder, Simplicity (See price list) 1 pint....	05
7	Feeders, 1 quart, tin.....	10
25	The same, half size.....	05
20	The same, 6 qts, to be used in upper story	15
3	Feeders, open air.....	15
	Files for small circular rip saws, new and valuable, 15c; per doz. by express.....	1 75
07	" The same, large size.....	40
2	" 3 cornered, for cut-off saws, 10c; doz	1 00
	Foundation. See Comb Foundation.	
60	Fountain Pump, or Swarm Arrestor.....	8 50

5	Frames with sample Rabbet and Clasp.....	07
18	Galvanized Iron Wire for grapevine trellises per lb. (about 100 feet).....	20
25	Gates for Extractors tinned for soldering..	50
55	Gearing for Extractor with supporting arm Glass. See price list.	1 25
0	GLEANINGS, per year.....	1 00
	For prices of back vol's, see price list.	
	Gloves. See Rubber Gloves.	
	Grape Sugar for feeding bees. See price list.	
	Grape vines for shading hives. See price list.	
	Hammers and nails. See price list.	
	Hives from 50c to \$6 25. See price list.	
	Honey. See price list.	
	" Plants. See seeds.	
0	Honey Knives, straight .75; curved blade..	1 00
	" ½ doz, by mail.....	4 00
	" ½ doz by Express.....	3 75
	Jars for shipping extracted honey. See Honey.	
	Labels for honey, from 25 to 50c per 100; for particulars see price list.	
0	Lamp Nursery, for hatching queen cells...	5 00
	Larvæ, for queen rearing, from June to Sept.....	25
15	Leather for smoker bellows, per side.....	40
0	Lithograph of the Hexagonal Apiary.....	25
1	Magnifying Glass, pocket.....	25
5	" Double lens, brass, on three feet.....	50
0	Medley of Bee-Keeper's Photo's, 150 photo's	1 00
12	Microscope, Compound, in Mahogany box	3 00
0	Prepared objects for above, such as bee's wing, sting, eye, foot, &c., each	20
7	Muslin, Indian head, for quilts and cushions, pretty stout, but not good as duck, per yard.....	10
	Nails. See Hammers and nails.	
10	Opera Glasses for Bee-Hunting.....	5 00
18	Paraffine, for waxing barrels, per lb.....	25
	Photo of House Apiary and improvements	25
	Planes and Planers. See price list.	
15	Pruning saws for taking down swarms, 75 and 85	
0	Queens, 25c to \$12 00. See price list.	
2	Rabbets, metal, per foot.....	02
0	Rubber Gloves, \$1.50 and \$1.75. See price list.	
0	Rubber Stamps, \$1.50 to 3.00. See price list.	
0	Rules. (See Pocket Rules) 12 and 17c.	
	Salicylic acid, for foul brood, per oz.....	50
10	Saw Set for Circular Saws.....	75
	Saws. See Circular Saws.	
	Scales for weighing honey, etc. See price list.	
0	Scissors, for clipping queen's wings.....	40
0	Screw Drivers, all metal (and wrench combined) 4½ inch, and 5 inch, &c.	
6	Section Boxes, fancy, hearts, stars, crosses, &c., each.....	05
	Section Honey Box, a sample with strip of fdn. and printed instructions.....	05
	Section Boxes in the flat by the quantity, \$6 00 per thousand and upwards, according to size; for particulars, see price list.	
12	Case of 3 section boxes, showing the way in which the separators are used, suitable for any kind of hive (See price list)	07

SEEDS OF HONEY PLANTS.

18	Seed, Alsike Clover, raised near us, per lb..	25
18	" Catnip, good seed, per oz. 10c; per lb.	1 00
0	" Chinese Mustard, per oz.....	10
18	" Mellilot, or Sweet Clover, per lb.....	75
18	" White Dutch Clover, per lb.....	30
18	" Motherwort, per oz. 10c; per lb.....	1 00
18	" Mignonette, per lb. (20c per oz.).....	1 40
18	" Simpson Honey Plant, per oz.....	50
18	" Silver Hull Buckwheat, per lb.....	10
	" peck, by Express	60
	" Common " per peck.....	50
18	" Summer Rape. Sow in June and July, per lb.....	15
	" Spider plant, per oz.....	50

A small package of any of the above seeds will be sent for 5 cents.

	Separators, tin, for section boxes. See Section Boxes.	
5	Sheets of Enameled Cloth to keep the bees from sowing or eating the cushions...	10
	Shipping Cases for 48 section frames of honey.....	55
	The same for 24 sections.....	35
	(This size can be sent by mail in the flat, for 75c.)	
1	Slate Tablets to hang on hives.....	1½

SMOKERS.		
	Smoker, Quinby's.....	1 00, 1 50, & 1 75
	" Bingham's.....	\$1 00; 1 25; 1 50; 1 75
25	" OUR OWN, see illustration in price list.....	75
00	Soldering Implements.....	1 00
	Swarming Box.....	75
2	Tacks, tinned, per paper, (three sizes).....	05
	For larger quantities see Hammers and nails.	
5	Thermometers.....	15
10	Transferring clasps, package of 100.....	15
	Tin, see price list.	
0	Veils, Bee, with face of Brussels net, (silk).....	75
	The same, all of grenadine (almost as good).....	50
	Veils, material for, grenadine, much stronger than tarlatan, 21 inches in width, per yard.....	20
	Brussels Net, for face of veil, 36 inches in width, per yard.....	1 50
	Wax Extractor.....	3 00
	Copper bottomed boiler for above.....	1 00
5	Wire cloth, for Extractors, tinned, 5 meshes to the inch, per square foot.....	10
2	Wire cloth, for queen cages, tinned, 18 meshes to the inch.....	10
3	Wire cloth, painted, for shipping bees, 14 mesh to the inch, per square foot.....	05
	Wire for grape vine trellises. See Galvanized iron wire	

All goods delivered on board the cars here at prices named.
A. I. ROOT, Medina, Ohio.

RUBBER STAMPS

DATING, ADDRESSING, BUSINESS, LETTER HEADS, ETC.



No. 1.



No. 3.

Address only, like No. 1, \$1.50; with business card, like No. 2, \$2.00; with movable months and figures for dating, like No. 3, \$3.00. Full outfit included—pads, ink, box, etc. Sent by mail postpaid. Without ink and pads, 50c less.

Put your stamp on every card, letter, paper, book, or anything else that you may send out by mail or express and you will save yourself and all who do business with you "a world of trouble." I know, you see.

We have those suitable for Druggists, Groc-
erymen, Hardware Dealers, Dentists, &c., &c. Send for Circular.
A. I. ROOT, Medina, Ohio.

Headquarters for Early Queens!
Imported and Home-bred; Nuclei and full Colonies. For quality and purity, my stock of Italians can not be excelled in the United States. If you wish to purchase Bees or Apiarian Supplies, send for my new Circular. Address
Dr. J. P. H. BROWN,
11td Augusta, Ga.

SENT FREE-- My Price List of Italian Bees, Queens, 4 Frame Nuclei, and Apiarian Supplies for 1880. Address,
5td H. H. BROWN, Light Street, Col. Co., Pa.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to re-
turn the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st. If wanted sooner, see rates in price list.

*E. W. Hale, Wirt C. H. W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7td
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	7td
*King & White, New London, O.	7td
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*J. R. Landes, Albion, Ashland Co., O.	7td
*D. A. McCord, Oxford, Butler Co., O.	2-1
*D. E. Best, Best, Lehigh Co., Penn.	2-9
*S. F. Newman, Norwalk, Huron Co., O.	7td
*Lewis A. Best, Best, Lehigh Co., Pa.	4-9
*J. B. Bray, Lynnville, Giles Co., Tenn.	4-9
*O. H. Townsend, Hubbardston, Ionia Co., Mich.	4-9
*Oliver Foster, Mt. Vernon, Linn Co., Iowa.	7td
*I. R. Good, South West, Elkhart Co., Ind.	5-10
*J. M. C. Taylor, Lewistown, Fred. Co., Md.	6-11
*B. Marionneaux, Plaquemine, Iberville Par., La.	55
*Ila Michener, Low Banks, Ontario, Can.	5-10
*Dr. B. F. Kinney, Bloomsburg, Col. Co., Pa.	6-9
*W. H. Nesbit, Alpharetta, Milton Co., Ga.	6-9
*Jas. P. Sterritt, Sheakleyville, Mercer Co., Pa.	6-2
*W. S. Canthen, Pleasant Hill, Lan. Co., S. C.	6-10
*J. C. Deem, Knightstown, Henry Co., Ind.	6-9
*V. W. Keeney, Shirland, Win. Co., Ill.	6-9
*J. T. Wilson, Mortonsville, Woodford Co., Ky.	6-5
Jno. Conser, Glenn, Johnson Co., Kans.	7-1
*J. S. Woodburn, Newville, Cumb. Co., Pa.	7-10
*J. H. Reed, Orleans, Orange Co., Ind.	7-9
*J. McGonnell, Waterford, Erie Co., Pa.	9

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La.	7td
T. F. Wittman, 4109 Hutton St., Phila'phia, Pa.	7td
S. F. Newman, Norwalk, Huron Co., O.	7td
Sprunger Bro's, Berne, Adams Co., Ind.	3-2
J. F. Hart, Union Point, Greene Co., Ga.	4-3
Nichols & Elkins, Kennedy, Chaut Co., N. Y.	6-11
M. S. West, Pontiac, Oakland Co., Mich.	8-1

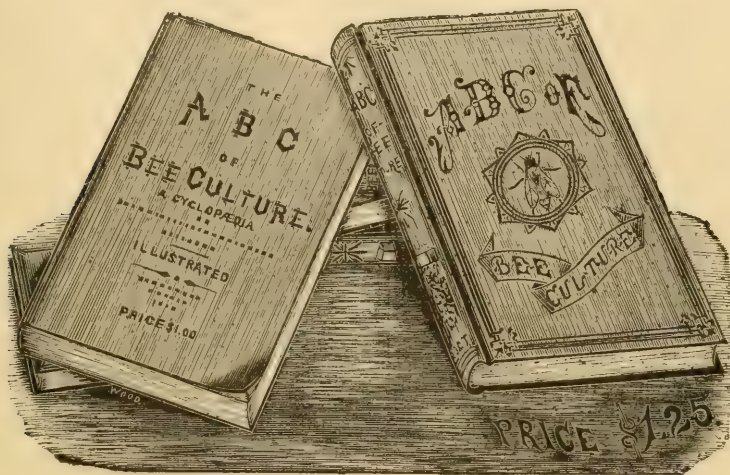
15 ACRES

For sale, Salem, Kenosha Co., Wis., with old Orchard, House, Stable, Barn, Well and Cistern, 1½ miles from depot, \$1000.00 cash. Also Horse, 2 Cows, Hay, etc., and bees if desired.
W. A. HARRIS.

GLEANINGS.

As I wish to unite my nuclei, I will send a dollar queen and GLEANINGS 1 year for only \$1.60; same, with tested queen, \$2.40; with hybrid, \$1.25. Price of queens.—Tested, \$1.50; Dollar, 75c; Hybrid, 40c.
9d H. BARBER, Adrian, Len. Co., Mich.

THE A B C of BEE CULTURE.



FOR several years, it has been my ambition to be able to write a book on bee culture, so clear and plain that not only any boy or girl, but even an old man or woman, with the book and a hive of bees, could learn modern bee culture, and make a fair, paying business, *even the first season*. This is a great undertaking, I grant; and it will require some one with far greater wisdom than mine, to do it the first time trying. After watching beginners, and answering their questions almost constantly, for years, I came to the conclusion, that the only way to do it was to "cut and try," as carpenters say, when they can't get the exact dimensions of the article they wish to make.

To cut and try on the A B C book, I have invested over \$2,000 in type, chases, etc., sufficient to keep my whole book standing constantly in type, that can be changed at a moment's notice. The books are printed only as fast as wanted, and just as soon as I see I have omitted anything, or have made any mistake, the correction is made before any more books are sent out. To show you how it works, and how it succeeds, I will give you an illustration.

A beginner writes to know if it is of any use to keep a queen, after she is eighteen days old and does not lay. Now I know very well that a queen should lay when from ten days to two weeks old; and also, that they will sometimes not commence until they are three weeks old, and then make good queens. Now, although I directed that they should be tossed up in the air, to see if their wings were good, when they did not lay at two weeks of age, I did not say, if their wings proved to be good, how long we should keep them. If I could spare the time of the colony, I would keep a good looking queen that could fly well, until she is 25 days old; if crowded for a place to put cells, I would kill all that do not lay at 18 or 20 days old.

I have just put the above in the A B C, and that is just the way I am going to keep doing. You see, you beginners are, ultimately, to build up the book.

It will tell you all about the latest improvements in securing and **Marketing Honey**, the new 1 lb. **Section Honey Boxes**, making **Artificial Honey Comb**, **Candy for Bees**, **Bee Hunting**, **Artificial Swarming**, **Bee Moth**, all about **Hive Making**, **Diseases of Bees**, **Drones**, **How to Make an Extractor**, **Extracted Honey**, **Feeding and Feeders**, **Foul Brood**, **Honey Comb**, **Honey Dew**, **Hybrids**, **Italianizing**, **King Birds**, **The Locust Tree**, **Moving Bees**, **The Lamp Nursery**, **Mignonnette**, **Milkweed**, **Motherwort**, **Mustard**, **Nucleus**, **Pollen**, **Propolis**, **Queens**, **Rape**, **Raspberry**, **Batan**, **Robbing**, **Rocky Mountain Bee Plant**, **Sage**, **Smokers**, including instructions for making with illustrations, **Soldering**, **Sourwood**, **Stings**, **Sumac**, **Spider Flower**, **Sunflower**, **Swarming**, **Teasel**, **Toads**, **Transferring**, **Turnip**, **Uniting Bees**, **Veils**, **Ventilation**, **Vinegar**, **Wax**, **Water for Bees**, **White-wood**, and **Wintering**. It also includes a **Glossary of Terms and Abbreviations** used in **Bee Culture**.

The book, as it is now, contains about 300 pages and about 200 Engravings.

Bound in paper, mailed for \$1.00. At wholesale, same price as GLEANINGS, with which it may be clubbed. One copy, \$1.00; 2 copies, \$1.90; three copies, \$2.75; five copies, \$4.00; ten copies, \$7.50.

The same, neatly bound in cloth, with the covers neatly embellished in embossing and gold, one copy, \$1.25; 2 copies, \$2.40; three copies, \$3.50; five copies, \$5.25; ten copies, \$10.00. If ordered by freight or express, the postage may be deducted, which will be 12c on the book in paper, and 15c each, on the book in cloth.

A. I. ROOT, Medina, O.

Contents of this Number.

Are Large Apiaries a Nuisance?	426
BEE BOTANY AND ENTOMOLOGY: Asclepius Tuberosa or Pleurisy Root; Minnich's Honey Plant, Eupatorium Purpureum, or Trumpet Weed.	423, 424
Bees of Arkansas.	421
BLASTED HOPES.	419
BOYS' DEPARTMENT; Dividing and Introducing.	418
California Bee-Keeping.	424
Candy for Queen Cages, that Does Not Require Any Water.	427
CARTOON.	451
CONVENTIONS.	450
EDITORIAL.	410, 451, 421, 429, 448
Friend Duff and His Story.	426
Friend Martin's Apiary.	424
From the A B C Child that Grew so Fast.	422
Gallup in California; How He Manages His Bees.	427
GROWLERY.	449
HEADS OF GRAIN.	431-441
HONEY COLUMN.	414
Honey From the Oak.	416
How to Make Money and Honey (Bees) in July and August.	420
How to Raise Plants—Simpson, Spider, Etc.	430
HUMBUGS AND SWINDLES: Mitchell.	452
KIND WORDS FROM CUSTOMERS.	452
My Hive Balance.	416
New Zealand Flax.	421
NOTES AND QUERIES.	441-444
Notes from the Banner Apiary.	411
OUR OWN APIARY, HONEY FARM, AND FACTORY.	412
Queen Cage, Combined Shipping and Introducing.	449
Queen Cells, When They Should be Given.	415
Queens, Italian, Changing to Blacks and Hybrids.	423
Queens, Judging of Their Purity by Their Looks.	430
Report, L. C. Root's.	418
Swarms Going to the Woods; Is Unsealed Brood an Advantage or Disadvantage?	428
The Sunshine Controversy.	452
Wintering Bees, Dadant's Plan.	418

INDEX OF HEADS OF GRAIN, NOTES AND QUERIES AND OTHER SHORT ARTICLES.

Abandoning.	429
A Fish—Bee Story.	439
Ants and Queens.	431
Apiary, Friend Buchanan's.	438
Bees, Blacks Balling Their Queen.	438
“ Blacks out Earliest in Morning.	413
“ Building a New Comb.	435
“ Stocks.	435
“ Buying.	435
“ Cross, What to do with 440	
“ Cyprian and Holy Land.	413, 414, 418
“ How an A B C Scholar Makes them out of Sugar.	440
“ How They Survived the Flood.	444
“ Hunting with Survivors' Compasses.	442
“ Killing, for Honey and Wax.	442
“ Lazy, How to Put Them to Work.	444
“ Queenless Stocks Cross-er than Others.	435
“ That Won't Work.	434
“ Upper Stories.	441
“ What can be done with a pound and a Queen?	438
“ Workers in Partners.	443
Bee-Veils.	429
Brush for Brushing Bees.	432
Buckwheat.	411
“ Good Report from.	436, 442
“ Silverhull.	443
California.	422
Candy, Its Effect in Setting Bees to Work.	435
“ Frames of.	438
Cartoons.	434, 443
Cheirograph, and how to Use it.	434, 432
Cotton, Honey from.	433
Cotton Hulls vs. Chaff.	436
Deleterious Effects of certain Blossoms on Bees.	413
Dividing and Introducing.	418
Drones, to get Rid of.	439
Early Amber Sugar Cane.	435
Egg, where did it Come from?	444
Egg of a Queen.	420
Fans Dipping Machine.	449, 441
Fdn. Cutting up at Lower Edge.	435
“ Keeping Over.	442

Queens Taking Wing.	443
Queens that do Not Lay.	437
Queens, Two in One Hive.	443
Queens, Young, getting fast in a Cell.	444
Reports.	432, 433, 441-444
Rheumatism; will Bee-Stings Cure it?	441
Separators of strips of Wood.	437
Separators, Wire-Cloth.	431
Simpson Plants.	412, 413, 414
Spider Plants.	412, 413, 414, 424
Stahl's Apiary.	441
Sourwood.	410
Sunac as a Honey-Plant.	435
Swarming-out Mania.	433
Swarms going back to Old Hives.	443
Thieves in the Apiary.	450
Transferring and Italianizing.	438, 439

We have to-day, August 30th, reached 4,993 subscribers, lacking just 7 of 5,000; this is lucky for our advertisers, for you know, when the number reaches 5,000, the price for advertising is to be 25c per line.

OWING to a large surplus of very nice, tested queens on hand, in our own and neighbor H's apiary, the price during the present month will be \$1.50 and \$2.50, instead of \$2.00 and \$3.00, as given in the price-list. We can now give you almost any kind of a queen you may ask for, by return mail. Dollar queens in abundance, extra nice; and imported queens with nearly a hundred to select from.

We are now making preparations to send a copy of our catalogue to all of our customers twice each year. The list will reach from 25 to 50 thousand, and several clerks have been at work on it a great part of the time for a year past. If you do not get it during this present month, drop us a card. The counter-store alone occupies nearly 6 pages, and even if you do not buy of us, it will be handy for a reference in regard to the changes in prices.

OUR RED CLOVER QUEEN.

AFTER my strong report of her good qualities last month, we discovered that her colony was slowly robbing another. After this was stopped, her bees worked like the rest, and no better. It is a little humiliating to confess at this late day, that I fear such may have been the case a year ago, but it is the only honest way I know of. Her hive has now sealed stores as it had last fall, but a hundred others are just as well off. Freshly imported Italian stock all work on red clover in August usually, I believe. If, after reading this, you still wish a queen from her, I shall be happy to oblige you.

At Mogadore, Summit Co., O., you will find one of the prettiest apiaries in the state, in charge of Mr. S. Stahl, and his better half. It contains nothing but chaff hives; a neat grape vine and trellis give shade to each; the ground is kept so clean and tidy, that you could easily find a queen bee, if she got lost; and friend S. and his wife I found to be the pleasantest people to visit and talk bees with you ever saw. I do not know whether it was because they were proud of their apiary, or because they were glad to see me. I opened several hives at random, and found the combs all straight, and all nicely spaced; not a bee was above the enameled sheets, and every thing was as neat and thrifty inside the hives as it was outside. Although it was the middle of August, the bees were building comb, rearing brood, and seemed as happy as their owner. I believe I have never before visited an apiary where the directions advanced in the A B C were so thoroughly carried out, as at friend Stahl's.

THE *Day Star* is the title of a little sheet published by A. F. Foster (brother of our Oliver Foster) of Mt. Vernon, Iowa. It is not a very elegantly gotten up sheet, it is true, but when I tell you that friend F. "works for nothing, and boards himself," you may conclude it is pretty well gotten up after all. He works for nothing, to human view, but God sends him the means to purchase the paper and types, and pay postage, and he does the printing himself. The motto of the paper is this:

"Depart from evil, and do good; seek peace and pursue it."

The only terms of subscription are as follows:

THE *DAY-STAR*, will be sent free to any who will read and distribute five or more each issue.

Address, A. F. Foster, Mt. Vernon, Iowa.

The spirit of the paper seems to be to teach the children of men, that God fights the battles of those who never strike back. My mind has been turned to this in thinking of how Oliver Foster uttered never a word, when his fdn. machine was copied. I presume he trusted God to set him right, and God has moved a stranger away down in Ia. (see page 449) to take up his cause. If you wish to be one of God's messengers too, send a few stamps when you send for sample copies of the *Day Star*.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

SEPTEMBER 1, 1880.

No. 9.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 Per Annum, in Advance; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75c each. Single Number, 10c. Additions to clubs may be made at club rates.

NOTES FROM THE BANNER APIARY.

No. 10.

ABOUT MYSELF, MY BEES, BUCKWHEAT, BABIES, ETC.

YOU want me to "tell you about that flow of basswood honey, what I am doing, and how many bees I have." Well, friend Novice, I presume I should talk more about myself, if it were not for my excessive *modesty*; but, seeing that you have asked me to say something about myself, I will "pitch right in."

I began the season with 15 colonies, and I still have the same number; but by taking frames of brood from these 15 colonies, I have formed 80, good, strong, two-frame nuclei, which are yielding me a crop of about 6 queens per day. Basswood began blossoming about ten days earlier than usual, furnished honey quite plentifully for four or five days, when,—"click," and there was a change in the programme; the basswood season was over, and bees were poking their noses here and there, and trying to rob. Visions of grape-sugar feeding began to dance unpleasantly before my eyes, when, one morning, I said, "Whew! what is it that smells so? it can't be possible, can it?" Open came a hive. "Yes; it certainly is *buckwheat* honey; but where do the bees get it? My buckwheat has hardly commenced to blossom, as yet; just see what 'squads' of bees are going across the road! They rise and go above the woods. Oh! I remember now; $\frac{2}{3}$ miles away are 50 acres of buckwheat. It was sown early, to be plowed under as a fertilizer, and that is where the buckwheat honey is coming from." The yield of honey from this source has not been large, but it has been steady (just right for queen rearing), and the combs filled up *slowly*. Now, Aug. 11th, my buckwheat field is as white as a snow drift, and the bees, not having so far to fly, are doing a little better. I shall not have more than 500 lbs. of white honey this season, from my 15 colonies; while, last season, from 9 colonies, I had 1000 lbs.; but I have sold 166 queens, and *hope* to sell as many more.

I do not think any one of your readers has enjoyed himself any more this season than I have with my bees; this summer has seemed like one long, bright, happy holiday.

In the Dec. No. of last year, I told you of our little

brown eyed twins, Nora and Cora; well, the two little "mischiefs" and their papa went back in the field, the other day, to pick some blackberries, and I tell you it would have done you good to have seen them tickle and laugh when they saw *where the berries really came from*. Everything passed off pleasantly, and the berries disappeared at the rate of about 60 per minute, until a cat bird began to "squawk" in the bushes near by, when both little "chicks" pointed towards the house, began to cry, and say "Baby, baby." They thought it was the "new baby" crying, and they never allow her to cry a single minute, without "something being done." So home we went, where we found a new number of GLEANINGS. In looking it through, we found a new picture, and, of course, the "little folks" must see it, and one of them, friend Novice, said, "A man, a man," and put one of her little, berry-stained fingers right square on your forehead. If you should ever see that number of GLEANINGS, you would know where it had been.

ITALIANIZING IN THE FALL.

When is the best time to Italianize, is a question that I am often called upon to answer, and, as so much depends upon circumstances, it is difficult to give a definite answer; but, taking everything into consideration, I should prefer the fall. Now, queens are plenty and cheap; you can get any quantity of them, get them just when you want them, and for about one-half what they would have cost last spring. The queens that breeders now have on hand were reared during the warm, honey weather, and are the best of queens. The hottest weather is past; the cold nights are not yet here; it is just the right kind of weather in which to ship queens, and have them arrive in splendid condition, and hence you will be more likely to succeed in introducing them. You have more time now to attend to the business; there is no "spring work" to hurry you, no "bees swarming," and no money to extract or "take off." In making a change of queens, a colony is usually left queenless a day or two, sometimes a week; this does not matter so much in the fall, as the queen does not lay more than one-half as much as she does in the spring. There is one objection, however, to Italianizing in the fall; that is, when honey is not coming in, it is more difficult to introduce queens; but, by feeding the colony two or three days, while introducing the queen, this ob-

jection is easily overcome. You might feed in the cap or upper story, so that robbers would not "bother."

The objection that I hear urged most frequently against Italianizing in the fall is, "The bees may die this winter, and then I'll be so much out." Very true, but suppose you do lose one-half of your colonies; if you had to buy queens next spring, for the remaining half, they would cost you as much as you would have to pay *this fall* for queens for your *whole apiary*, and it isn't *probable* that you will lose one-half of your bees; besides, there is that comfortable feeling that comes over a fellow when he knows that next spring his bees will all be Italians, and ready for business. One more point; if you wish for no hybrids in your yard, buy dollar queens this fall, and if you find two or three that produce hybrids next spring, you can remove them, buy tested queens to put in their places, and your apiary will be stocked with pure, tested queens, for *one-third* what it would have cost to have bought tested queens in the spring.

Novice, please allow me to compliment you upon the neat appearance of your *fine*, new type.

W. Z. HUTCHINSON.

P. S.—Neighbor Long has had two fine "buckwheat" swarms.

W. Z. H.

Rogersville, Genesee Co., Mich.

Well done, friend H.! now I think I echo the sentiments of at least the larger part of our people when I say, give us just such a home picture as that each month, and tell us *how* you are being happy, that we may be happy too.

OUR OWN APIARY, HONEY FARM, AND FACTORY.

THE principal topic of interest to me during the past month has been the possibility of a plant that will pay, if grown by the acre, for the honey alone. During our hot, August weather I have found it very important to be up by daylight, if I wanted to know what was going on in the insect and floral world. About the first of August I was up one morning before I could well see the flowers, and found the bees making quite a loud humming on the spider plants as usual. On going round on the side toward the apiary, I found I could hear a pretty strong line in the air, back and forth, although I could see none. I then went to the apiary, and was astonished to find bees dropping all round the entrances, and buzzing in, much as they do when basswood is in bloom. Although it was not every hive that was taking advantage of the early hours thus, there were so many of them that I thought it impossible that the small plat of spider plants could keep them all employed. To test the matter, I walked clear around the whole apiary, with head uncovered, and listening intently to the bees overhead. I was a little surprised to find a heavier force going over to the Simpson plants than toward the spider plat. Of course I went over, and found more bees by far. The Simpson plant did not, of course, furnish such large drops of honey, but there were so many more of the little flowers, and our field is so much larger, that it accounted for the difference. Every

Simpson ball furnished honey, while it is only a part of the spider flowerets that have the large drop on them. Again, the bees are all through with the spider plants, and they are entirely deserted a little after sunrise, while the force at work on the Simpson field is almost the same every hour in the day, because the honey is constantly flowing. This is a great item. Another point: For a time in July, I was quite in favor of cultivated catnip; but it lasted hardly more than 10 days. Melilot seemed pretty fair, a very few days, but it is all dried up and gone now, and has been for weeks. This is the case with almost every plant we have tried, except these two. The Simpson and the spider plants are blooming constantly from the middle of July until frost. A half acre of the Simpson, I am satisfied, would keep 10 colonies of bees busy enough to be secure from robbing during the whole fall months, even during a drouth, which it stands surprisingly well; of course, I mean on rich, strong ground. Ten acres would probably keep our 300 stocks, such as we use for queen raising, going right along prosperously. I am so well satisfied it will pay, that we are at work under-draining and getting all our low lands ready for them. Over an acre of plants set out last spring are now bearing quite a nice little crop of bloom, and keep a good many bees busy. In connection with this matter, I give some reports below from different localities:

My Simpson Honey Plants have been in full bloom since about July 15th, and the bees are just swarming on them from morning to night, all day long. I shall plant all the land that I can get hold of next season, with the Simpson plants. I recommend them to all bee-keepers. The seed that I got of you, I sowed the 12th of January this year, in the greenhouse, in a box, and transplanted them into the open ground, when the weather was good in the spring.

OTTO KLEINOW.

Opposite Fort Wayne, Detroit, Mich.

The Simpson Honey Plant has been a decided success again this season. I think we can depend upon a good yield of honey from it nearly every season, and as it remains in bloom so long, it outstrips all other honey plants in this section. I find, by experiment, that the old plants are very easily transplanted. The roots can be separated and even broken up, and they will grow. It seems as though the roots have eyes the same as potatoes. They can be packed in boxes, and sent by express or freight with but little expense, and planted in rows so as to be cultivated and hoed the same as corn. I believe it will pay any man having bees, to plant a piece of ground to the late variety, with a few of the early. I have taken particular pains to watch the plants in their growth and blossoming, and the bees working on them. I have seen the bees busy on them before sunrise, and busy all day long, even until dark. They seem loth to quit. We have no other plants that the bees gather so much honey from.

W. P. IRISH.

Norton Center, Summit Co., O., Aug. 23, 1880.

We now have a half acre of Spider Plant in bloom, and it is a pretty sight, especially early in the morning, when they are completely covered with bees. When they first began to bloom there was certainly

a large drop of honey in every flower. We only set out about 100 of the Simpson Plants, and but very few of them are in bloom yet, but they show honey in every blossom. I believe these two plants will pay well to raise for the honey alone.

If I succeed in getting 100 lb. of comb honey per colony this poor season, I will tell you how I did it.

HARRY BLACKBURN.

Webberville, Ingham Co., Mich., Aug. 1, 1880.

SPIDER PLANTS IN MAINE.

I would like to tell you about those Spider Plants away down here in Maine. I got a 5c package of the seed, and also a package of the Simpson Honey Plant seed, and gave half of them to a neighbor who keeps bees. I planted mine in a hot-bed, about the first of May, and transplanted the first of June. They began to bloom about the 25th of July. At present, I think I have about 100 bunches of flowers. My bees begin to visit them about 5 o'clock P.M., and work until dark very busily. Then in the morning, they work well until nine o'clock or after, making 7 hours or more when they can get honey from them. Tonight, I was there about sunset and kept the bees away from a bunch of flowers about ten or fifteen minutes, and it would do any bee-keeper good to see that drop of honey grow until it was nearly large enough to drop off. I will have 500 plants next year any way.

WILLIAM HOYT.

Ripley, Somerset Co., Me., Aug. 9, 1880.

I planted some of the Simpson Honey Plant, which grew well, and I think it is one of the best plants for honey that we know of. My bees are the blacks; I have only one Italian colony. In the morning, I can see the blacks and Italians both on this plant, but through the day I can not find one black bee on it. Why is this so? Last fall you said the blossom was full of honey, and so I thought the black bees might reach it. Now I cannot understand this. The Italians are all day long there at work. I have also the Spider Plant doing well. I got the seed from you, and it has been in full bloom ever since the 4th of July. The bees are on it every night and morning, but I think the Simpson Honey Plant will produce more honey than the Spider Plant. They are both very valuable plants for any apiarist, because they come in just at the time when most needed.

Saginaw City, Mich., Aug. 15, '80. G. CASTELLO.

BLACK BEES OUT EARLIEST IN THE MORNING.

I was a little surprised to find that the bees which were out the *very* earliest were invariably black bees, that remained in several new swarms we bought in June. These black bees got large loads, for they were the first on the ground; but while they stopped in the middle of the day the Italians kept right on. This seems to upset the old claim that the Italians work earlier than common bees. Which race lays up the most stores? The Italians, by far; for they have whole combs of solid honey, while the blacks have only a little along the top bars.

Of course, I have tested the quality of the honey from these plants. The comb built is as white as snow, almost, and the honey is full as white as either clover or basswood honey; but I have never been able to get a taste of the honey in the hive, so as to distinguish the honey of one plant from that of the other. About the last of the month, we had a yield of honey which filled up the

hives so much, that I am forced to the conclusion that it came from some other source; for our 18 acre honey farm could not possibly furnish 300 colonies enough so that they could store from 3 to 5 lbs. each, in the space of 10 days or two weeks. From the taste of the honey, I should say it came from red clover; and I found many bees coming home with the well-known red-clover pollen on their legs. While on a visit to an adjoining county, I saw a field of 18 acres, pretty fairly swarming with Italian bees, and the hives were filling very much as they do in June. I do not think any doubts need ever be expressed again, about Italians working on red clover.

DELETERIOUS EFFECT OF CERTAIN BLOSSOMS ON BEES.

I told you that our melilot had made a most luxuriant growth. Well, while it was in bloom I noticed many bees hanging to the flowers in a dumpish sort of a way, and when touched with the finger, they moved, but did not fly away. A good many stayed on the flowers all night. On looking into it further, I noticed, as it seemed to me, altogether too many dead bees on the ground among the plants. Mr. Gray called attention to this, and I explained it by saying I presumed it was bees that died of old age. He thought the number too great, by far. After thinking about it, I looked among the Simpson plants, but have never been able to find a bee on the ground. The bees have covered this ground for weeks, and in numbers ten-fold greater than those on the melilot. If you touch them with your finger, they are always off in a second.

On another page I have mentioned the "Minnick" honey plant; well, I watched its blossoms as they unfolded, with great interest, but, as soon as I found bees on them, I thought they seemed "logy." At night, some of them did not fly home, but remained in a dumpish way on the blossoms all night. Finally, I found some on the ground, with their tongues protruded, dead. As I have seen this only on the two plants mentioned, I have decided them to be unhealthy for the bees. Am I right?

CYPRIAN AND HOLY-LAND BEES.

The Cyprian bees are hatched out, and have been at work for several weeks in the fields. They are exactly like Italians, in every respect, so far as I can see, and certainly in no way any better. The Holy-Land queens have a ringed appearance, as I have said elsewhere, and the bees from one queen are enough different from Italians to be something of a curiosity. When young, they have the same whitish down on their bodies that I have mentioned in the A B C as belonging to the albinos. Another Holy-Land queen has bees showing this peculiarity very faintly, and her bees, although three banded, are as cross as average hybrids. As honey or pollen gatherers, they are certainly in no respect in the least superior to our other Italians. I have purchased of friend Jones, nine queens in all. Just as soon as I can find anything about them to recommend them over the Italians we have, I will let you know. As I said last month, I rejoice

at the enterprise, and I am glad to see you eager to try these new races, but I do not want to see you disappointed in thinking you are going to get something greatly superior. I will send you some of the light, Holy-Land, worker bees, in a cage, for 20c., if you have a curiosity to see them.

27th.—Just at dusk last evening, I happened to take a look at a small spider plant that came up self-sown, in the garden, during the latter part of the summer. Although it was scarcely dark, each of the dozen flowers contained a surprisingly large amount of nectar. The evening was very warm, and as I hurried off to our Thursday-evening prayer-meeting, I mentally decided to be down in the Spider-Plant field next morning before daylight; for, if one little plant was yielding so much, what would the whole plat do? I was up and passed through the apiary, before scarcely a trace of dawn appeared, but it was bright moonlight. Before I was fairly on the ground, I heard bees humming, and by stooping down I could see them running up to the tops of the hives, where they took wing, and off they were in the darkness. To be sure that the rush was for Spider Plants, I walked clear around the outside gravel path that encircles the apiary, and found, by the sound, that they went only one way. I went that way too. Was ever a sight so beautiful? Here was business indeed. What a roar, and what a happy roar! I watched them awhile as they drank in the nectar, saw, as it became a little lighter, the heavy stream of laden bees as they went back to the apiary, and then I followed them back. I wanted to see what bees were thus enterprising. I looked at the Holy-Land and Cyprian bees, but there was no stir at their hives. I then looked at some favorite, strong, Italian stocks; not a bee moving. Then at the red-clover queen; bees at the entrance, but none moving. I went to the heavy colony of blacks mentioned before, and one would have been sure that they were robbing. Bees were piling out and in at such a rate, the entrance was hardly large enough. I pondered. If these were only Holy-Land bees, or Cyprians, or even from the red-clover queen, a hundred queens should be started from her to-day, and what a story we would have for GLEANINGS. The queen was sold for 25c. more than 6 weeks ago, and these were her old, ragged-winged bees, with a few younger Italians helping. Were there no more stocks doing as well? At the thought I made my linen coat tails fly, as I rushed over the apiaries to see what hives were working. Perhaps 50 out of the 300 were out,—some a little, and a good many nearly equaling the black stock. Just one excelled it, and they were beautifully marked Italians. This colony outstripped anything I had ever seen, in the way of bringing in honey. The slate showed the mother of the bees had just been sold a few days ago. I opened the hive, for no smoke was needed, and found the Spider-Plant honey all through the hive. It had the taste of the plant, unmistakably, in the unsealed honey, but the sealed was a pure, simple sweet, with scarcely any flavor to be noticed. Later they were at work on the Simpson

Plant, and during this morning hour, I learned to tell which plant a bee was at work on. From the Simpson, they get small pellets of pollen almost white; from the Spider Plant, they get pollen the nearest to black of any you ever saw. They seldom gather this, until after they have licked up all the honey. The sun is now up, and the Spider Plants are deserted except by the pollen gatherers. The apiary, too, is so still and quiet that a lazy bee-keeper would never dream of the bustle and din that we had two hours ago.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

I have 500 lbs. of extracted honey that I will sell at 9c per lb. It is Basswood and White-Clover, and is very nice. G. M. DEER.

Riga, Mich., Aug. 23, 1880.

I have 2 half bbls. of 200 lbs. each, and 2 bbls. of 500 lbs. each, of nice, thick white-clover and basswood honey, that I will sell for 9c, per lb., and throw in the barrels, and deliver at the railroad station.

F. W. HOLMES.

Eastmansville, Ottawa Co., Mich., Aug. 19, 1880.

I should like to buy 500 lbs. of Basswood or White Clover Honey and will pay 11c per lb., delivered at railroad freight depot, Southport, Fairfield Co., Conn. It must be of good quality and light colored.

Aug. 26, '80. GEORGE E. NORTHROP.

I have 2,000 lbs. of White-Clover and Basswood, Extracted Honey, for which I will take 9c, delivered on the cars here, barrels thrown in. It is in 10, 12, 32, and 44 gal. kegs and barrels.

I also have 1,000 lbs. White, Comb Honey, in 2 lb. sections; boxed and delivered on cars here, at 15c.

ROBT. QUINN.

Shellsburg, Benton Co., Ia., Aug. 16, 1880.

CITY MARKETS.

CINCINNATI.—Honey.—Scarce, both Extracted and Comb; demand slow. We pay 10c per lb. for Extracted Clover Honey, and 16c for choice white Comb Honey.

Beeswax.—Is 20@25c per lb. on arrival.

Cincinnati, O., Aug. 21, '80. C. F. MUTH.

CHICAGO.—Honey.—Is quite plentiful on the market now, and prices have had a tumble. Comb Honey, fair to choice, brings 15@17c; Dark 10@12c. Extracted Honey, 6@8c.

Beeswax.—Fair to choice, 20@23c.

ALFRED H. NEWMAN.

972 West Madison St., Chicago, Ill., Aug. 24, '80.

NEW YORK.—Honey.—Best white Comb, small boxes, new, 18@20c; fair, ditto, 15@17c; buckwheat, ditto, 11@12c; large boxes, 2c per lb. less. White Extracted, 9@10c; fair, ditto, 8@8½c; Dark, ditto, 6@7c. Southern strained honey, 75@80c per gal.

A. Y. THURBER.

158 Duane St., New York, Aug. 25, 1880.

ST. LOUIS.—Honey.—We quote Comb Honey scarce, and considerable inquiry at 20@21c for nice, bright clover, in 1 and 2 lb. sections, and 15@17c for darker grades in sections. Large packages comb not wanted at over 10@13c. Extracted dull, but look for better inquiry with cold weather; salable at 8@9c for bright, and 5@7c for dark.

We will say to a great many letters asking what we give for honey, that "we do not buy honey at all;" we handle honey on commission alone.

July 22, 1880.

R. C. GREER & CO.

No. 117 North Main St., St. Louis, Mo.

QUEEN CELLS; WHEN THEY SHOULD BE GIVEN.

ON page 369, Aug. GLEANINGS, I read as follows: "Queen cells, or a newly hatched queen, is to be given every stock, as soon as a queen is taken out." Now, friend Root, do you mean just that, or do you wait 24 hours before giving a queen cell? If you mean as you say, it seems a little strange that nearly every writer says, wait 24 hours. I have often given queen cells at the time I took a queen from a stock, and from 6 to 8 hours after, only to have them destroyed. I have had better success, in letting a young queen run upon the combs, as soon as I had taken out the laying queen, than I have in giving them cells; yet, as far as my experience goes, not more than 1 out of 10 will be accepted, if let out on the combs. The past season, my bees have been very slow about starting cells, and I have had over one-half of the cells destroyed, which were put in after 24 hours time had elapsed from the time the queen was taken away.

On page 380, *American Bee Journal* for August, in an article written by Mrs. L. Harrison, we read: "In our early days of bee-keeping, we used to read, to form a nucleus by taking two combs of bees and brood and giving them a sealed queen cell,—and we invariably had them destroyed, and the bees would rear queens to suit themselves from the eggs or larvae they had. If the nucleus has been formed long enough for them to have queen cells of their own, and a cell ready to hatch is given them, it will not be destroyed; or if their cells are cut out, and another inserted in their place, it will be respected." This corresponds exactly with all of my experience. If I attempt to give a queen cell to a colony from which I have taken a queen, before they start cells from their own brood, the cell is invariably destroyed. Hence if, at 24 hours after the removal of a queen, no cells are started, with me it is not safe to give a cell just ready to hatch. As looking over the combs to see just when cells are started is extra work, we now wait 48 hours, and usually all works well.

Don't you rather commit yourself, friend R., in the two following quotations which I make from GLEANINGS? On page 369, you tell us, "Each hive should at all times have unsealed brood in some stage," while you say on same page, "Another lot inserted in the same way were not looked at for 18 days; at the end of which time, we got a nice laying queen from every hive, so far as I know." Please tell us how you manage to get unsealed brood in a hive, without looking at it in 18 days; also the secret of getting bees to accept a queen cell just ready to hatch, immediately upon taking away their laying queen.

G. M. DOOLITTLE.

Borodino, N. Y., Aug. 12, 1860.

In regard to putting in queen cells, friend D., I meant, principally, that no hive should be allowed to stand and be forgotten, until they had hatched a queen from their own brood, or, worse still, got out of brood entirely, and started fertile workers. You know I had just been saying that a fertile worker should be considered a disgrace in any apiary. The disposition to procrastinate, or to neglect to attend to queenless colonies should never be yielded to in the least. I took it for granted that our friends all knew of the greater liability of the cells being destroyed, if put in on the same day the queen

was removed. I many times speak thus briefly, because if I were to take up all the points in enforcing an idea, I should distract the attention of the reader from the main idea, besides occupying a great amount of space.

But I must protest against your putting it so very strongly, friend D. We raise cells and queens by the hundreds, and it is our daily business. If I wish to decide any of these points, I can try the matter on a large scale, at almost any time. For instance; we have to-day received unexpectedly a second large lot of imported queens, making over a hundred sent us within the last two weeks. We have also had dollar queens sent in faster than we can use them, until we find ourselves overrun with both queens and queen cells. This has happened several times before, this season. Well, to get rid of these cells, we put a hatched queen or cell into every hive the minute, almost, that a queen is taken out. If the cell is torn down the next morning, we give them another, and so on. Are nine out of ten destroyed? By no means; I should say, we never lose more than half of them, and the saving in time where cells are plenty is a great gain, with so many colonies. Of course, hybrids and very strong colonies destroy more. With gentle Italians, and only enough bees to cover about three combs, we do not lose more than $\frac{1}{4}$ of them. Come and see us, and we will take 50 cells, and try it. By severe smoking according to friend Hayhurst's plan in the A B C, we can introduce hatched queens almost every time.

In regard to the last paragraph: I by no means expect you to think our apiary is *always* managed up to the standard I teach. The case I mentioned was where our apiarist had just been taken sick, and before anybody else could be broken in to take his place, things had become very much behind hand indeed. The shipping was the most important matter of course, and, as we could do no better, the number of hives I mentioned was left unopened for 18 days. Luckily no disaster happened to this lot, but in other parts of the apiary, we had fertile workers as a consequence of this same lack of brood.

HONEY FROM THE OAK.

ABOUT two weeks since, I noticed a large number of bees at work on a Pin Oak (*Quercus palustris*) tree. On close examination, I discovered a sweet substance, resembling honey, around the edge of the cups that hold the acorns. The bees were not working on any part of the tree except the acorns. I went to the same tree again yesterday, and found bees still at work, but in less numbers. A greater part of the acorns were withered and dried. I send you a few as a sample. You may notice that apparently there is some kind of an insect inside of the acorn, which probably produces the sweet, and also causes the acorns to wither and drop, instead of making a natural and perfect growth.

On the 26th day of June last, I hived a large second swarm of bees. They appeared to be doing well for a few days, but I noticed, after awhile, quite a number of them on the ground in front of their hive.

Upon examination, I found their feet loaded with the pollen of the milkweed, such as you describe in A B C, part third. I also found a number in the hive on the bottom board, unable to get farther. I have seen them on the alighting board, and seen bees not affected trying to get the pollen off from the others' feet; and, finally, the feet of both would become so entangled that, in their efforts to free themselves, they would fly away, and I suppose drop in the grass and die.

POLLEN FROM THE MILKWEED.

I have seen bees stuck so fast to the bloom of this weed that it seemed almost impossible for them to get freed by the use of all their strength of legs and wings, and I have found dead bees sticking to the bloom. This swarm I have, just mentioned finally became so reduced in numbers, before they had time to produce young brood, that the moth just about took possession of their comb, and, of course, destroyed the young bees, and the comb. I transferred those bees yesterday and found about one quart left,—the remnant of a large swarm of young bees hived on the 26th day of June last. I think I am right in giving the milkweed credit for this wholesale destruction.

I have noticed another variety of milkweed, which is sometimes known by the name of pleurisy root, and has a bloom almost exactly like the one just mentioned. It has the same kind of pollen which affects the bees in the same way as the large variety described by you. I am satisfied that those weeds produce considerable honey, but I have been destroying them, and shall continue to do so. I believe there are a great many bees that gather honey from those weeds and never get to their hives.

WM. LOOFBONRON.

Fayette, La Fayette Co., Wis., Aug. 4, 1880.

I have recently observed the bees buzzing about the Jack Oaks (*Q. imbricaria*), in such a manner as to convince me that they were there on business. Careful observation showed that they get honey from little galls that grow on the small branches. I noticed one that the bees were visiting very frequently. By the aid of a ladder I secured it. It was about the size of a small pea. The side farthest from the branch was somewhat concave, and in this cavity could be seen several small patches of honey, which had doubtless oozed out in a very short space of time, for it was visited by bees about one minute before I secured it. The gall contained, near the center, what appeared to be the larvae of some insect.

T. P. ANDREWS.

Farina, Ill., Aug. 9, 1880.

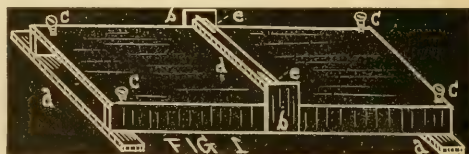
In our back volumes, this queer phenomena of honey from the oak has been several times mentioned, and it appears that it is not a normal product of the oak tree, but is always caused by an insect, as in the case of most of the honey dews. We sent the acorn mentioned in the first letter to Prof. Beal, but he was unable to say from it alone to what particular oak it belonged.

It is quite likely that the milkweed pollen is more of an enemy to the bee than I have given it credit for, judging from the report above, but I trust it is seldom that a colony is so badly injured by it as the one mentioned.

MY HIVE BALANCE.

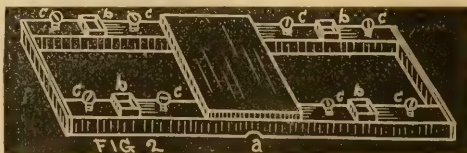
I DIDN'T just have any abundance of cash to spare, and I did just want to have a hive on scales. Without it the apiarist is partially blindfolded—don't know what is going on. With honey coming in at the rate of seven or eight ounces a day, and almost as many ounces dissipated at night, there is no hurry about putting on the sections; but, when the sweet starts to the tune of seven, ten, or 15 pounds a day the bee-man would better "hustle his boots," to see that his dish is right side up before it is done raining porridge. Bees are capable of making a great show of business

when little honey is actually coming in, and also of getting in a good deal of honey in a very quiet way. The prompt and accurate information which a balance gives is almost one of the necessities. Nevertheless, I didn't feel like giving eight dollars for one of those brassy-faced, wire-spring concerns,—hadn't the faith in a wire coil holding its own year by year, with a 75 lb. hive hanging constantly on it. Ah! worse and worse, I just now see they won't weigh but 60 lbs. at best. The outcome of all is that I have a balance that will weigh any weight a bee hive dares to be, and that can be made to weigh half ounces; and the cost was but a trifle beyond the labor of making. The expense of time, though considerable, was not extravagant. As Novice is the special "guide, philosopher, and friend" of such of the class as are light of pocket, I guess he will thank me to tell the boys all about it.



THE BASE.

Fig. 1 represents the base of the scale. It is four feet long, sixteen inches wide, and five inches high exclusive of attachments, and made of ordinary $\frac{3}{4}$ lumber. This is to rest on the ground (that is to say, on a nice bed of sawdust), and the strips *a a*, are to keep it from settling over on one side. The strips, *b b*, are to keep the upper portion, which carries the hive, from being slid off by some luckless blunder. The large screws, *c c c c*, catch the oscillating part of the scale as it swings from side to side. They should be screwed down so as to allow but a slight oscillation (half an inch or so), and may be changed from time to time if the bars spring. A bar of wood, *d*, one inch by $\frac{3}{4}$, runs across the middle of the base to support the axles or trunnions. This part is also strengthened by a partition-like board underneath, which is not visible, to make all firm. The trunnions, *e e*, are simply bits of half inch iron rod about six inches long. They are settled into the bar, *d*, a little way, and held in place by a strap of tin passing over the inner end. Only the other three inches is needed as a bearing. Smaller sized rod will probably do just as well. The bars above, where they rest on the trunnions, are hollowed out about $\frac{3}{16}$ of an inch. This may be done by burning with a somewhat larger rod. The cavity is then faced by beating in smoothly a strip of tin, the ends of which are then tacked fast. The bearing is shown at *a*, in Fig. 2.

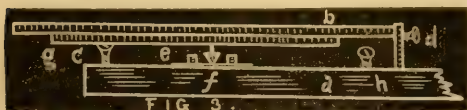


THE DOUBLE BEAM.

The carrier or double beam, shown in Fig. 2, is 20 inches longer than the base, but of the same width. It is made by fastening together, at the ends and middle, two pieces of 3x3 scantling 5 feet 8 inches long. A stiffer beam could be made of 2x6 or 2x8 joist, but the points of motion would be so far out of line that it would not balance so nicely, or weigh

so small weights. To avoid springing, under continued heavy weight, two suitable wedges are slipped under the beam on one side, when the scale is to be left. The indentation at *a* is where the beam turns on the trunnion. The letters *b b b b* mark little shallow boxes, made by first nailing a strip of tin upon the bar at that point, to give a firm bottom, and then nailing on four bits of $\frac{3}{8} \times \frac{3}{8}$ wood. The centre of the box, *b*, is just two feet from the centre of the indentation *a*. The screws, *c c*, catch the oscillations of the leaves of the scale just as those of Fig. 1 catch the oscillations of the beam. The two leaves of the scale are each two feet square, and secured from warping by cleats underneath and by being nailed at the ends to three inch strips of board in the style of a little boy's home-made sled. They do not interfere with anything below as the lower parts of the scale are much narrower than the leaves. A plain line is marked across the exact centre of the leaf for convenience in placing the weights.

The adjustment of the leaves is shown in Fig. 3. The invention of the implement is mainly in this. If we lay a board on each end of the carrier, we can weigh things, after a fashion; but in ordinary hands the reading would be very inaccurate. Reasonable accuracy is secured by mounting each leaf upon centre points, and placing the burden and the weights so that the leaves themselves will oscillate. Referring now to Fig. 3, *a* is the end of one bar of the carrier or double beam; *b* is one leaf; *c* and *h* are projecting screws; *d* is a button which turns on a screw put in the edge of the leaf; *e* is a centre point; and *f* is the tin-bottomed box. A narrow cleat, marked *g*, is put under the leaf, mainly to make a firmer hold for the centre point. When the button *d* is turned up, the leaf will rock downward until it touches the end of the screw *h*. Whatever is weighed on the scale must be so placed that it will rock either way with a mere touch. Then the button is turned back to its place, and the leaf, bearing at once on the outer screws, the centre points, and the button, is immovable while the weight is ascertained. In weighing a hive these buttons only need be turned occasionally. Don't pry up a hive when it gets out of turn, but keep a brick lying on the top of it which can be moved to make the adjustment. As to the weights, the big ones once adjusted remain on the scale. The small ones if laid directly on the centre line of the leaf will be right without any further care. The centre points, *e*, are made by cutting off a twenty-penny nail, and filing down the head of it; after which it is driven deep enough to be firm.



SECTION OF ONE LEAF AND END OF BEAM.

With a scale of this sort, of course the weights have to be pound for pound with the burden. Square boxes of $\frac{3}{4}$ inch lumber are made of suitable size, and filled to correct weight with gravel and small boulders. I use three sizes, 25 lb., 10 lb. and 5 lb. They will absorb some water in a storm but in so doing they will keep debt and credit with the hive, which will also absorb water. Pound, half pound, and quarter pound weights are also used. These are little muslin bags of gravel. Ounce

weights are bits cut from a bar of lead, and whittled down to correct weight. The trunnions should be oiled, and every thing made as smooth as practicable; yet, quite likely, when first set up it may not turn very easily. If so use a shift-weight. This is not to be counted in adding up the weight, but is used simply to make the thing turn. It should be some object different from the weights, weighing just enough to suit the scale; a weight which can be found by trying. We will say the correct weight is on, but the scale does not go down on account of the rigidity of things. The shift-weight is now added and the scale goes down. It does not rise again upon the removal of the shift, but rises when the shift is placed on the opposite scale. When my scale was first made I used a shift of three ounces, I think. It has since been so that a scale would sink with one of the ounce weights, and rise on its removal.

It is scarcely needful (in talking to so large a class of boys) to say that the whole thing, weights and all, should be neatly painted, and be so arranged as to be a respectable fixture of the apiary and not a scare-crow. I omitted to say in the proper place that the bars should be of hard wood, well seasoned. In winter time the same scale can be used to weigh the porkers, and the bags of grain, and for all the uses of a farm scale.

E. E. HASTY.

Richards, Lucas Co., Ohio.

Many thanks, friend Hasty. Your idea is novel, and at least to me new; and, although I think it will be greatly improved, perhaps as soon as it comes before our readers, we owe you a vote of thanks for the ideas it suggests. I should like it much better, if it showed the weight at a glance, without being obliged to try it with weights; but, as the arrangement is so much cheaper than the dial scales, I presume we can put up with so slight an inconvenience. Besides, the dial scales leave the hive swinging about in the wind unpleasantly, unless we have guy wires constantly attached, which render it inconvenient to open the hive often. I would wish the suspended hive to be certainly as easy of access as any other, for if we are getting honey we wish to know what kind of honey, and what it is from, and I am always trying my tasting test, whenever I find honey coming in unexpectedly. Perhaps it may help our readers to get a clear idea of friend Hasty's plan, to remark that, if the hive were simply set on one end of a board, and the weights on the other, we should be obliged not only to put the weights in one exact spot but the bees would have to put their honey in the same place in the hive, to give us accurate weights. Friend Hasty remedies this by having the platform that holds the hive, as well as the one that holds the weights, rest on pivots. Suspension, of course, would do as well as pivots; but then we would have inconvenient arms in the way, besides leaving things to be swung about by the winds. After making one like the above, to be sure you take in all the points, let us see who will make the next substantial improvement.

OUR PRESENT SEASON'S REPORT.

SOMETHING THAT IS NOT "BLASTED HOPES."

WE regret to notice so many reports of poor yields of honey, from nearly all parts of the United States. In our own section, most bee-keepers have taken no surplus honey, owing chiefly to the fact that most of them allow their bees to swarm.

In our own apiaries, we have allowed no natural swarming, and have thus secured a fair yield for the season. From 176 colonies, we get over 15,000 lbs. During the busiest time, we are often obliged to crowd our work very rapidly. As a result of this, we took, in one day, with one extractor, from 56 swarms, 1,565 lbs. of honey.

We hand you this report, not so much because we are ambitious to have our success known, but because it indicates the value of the methods developed by long experience, and the great contrast with the results attained in the past.

How long will it be before the mass of bee-keepers will inform themselves, and be ready to take hold of these advanced methods intelligently, and not be found reporting "entire failures." Of course, there are seasons and locations, such as '69 was with us, when no honey at all is obtained; but we now refer to such localities as our own, the present year.

It should be remembered that half a crop in a poor year is nearly as good as a full one in best seasons.

L. C. ROOT & BRO.

Mohawk, N. Y., Aug. 18, 1880.

Many thanks, friend R. Your report comes pretty near verifying what I said last month in an editorial, concerning Blasted Hopes. Now, if any one in your vicinity sends us a complaining report, we shall know pretty well, that it is the fault of the bee-keeper, and not the season.

DADANT'S PLAN OF WINTERING HIS BEES.

IT is cheering to know that so good a bee-keeper as friend Dadant is following substantially our regular plan of wintering bees out of doors, even if he does carry it a little farther with an extra outside covering of hay. I should hardly think this necessary with a good chaff hive. Read:

HOW I WINTERED BEES.

Mr. Charles Aldrich, of Webster City, Iowa, furnishes *The Homestead* with the following history of his experience in keeping bees over the winter:

I have kept bees with the usual varying success for many years—though on the whole they have paid me very well,—probably better than almost any other kind of farm stock. I have wintered them in the cellar until last winter, when we tried a new experiment—that of leaving them on the summer stands. While more or less died in the cellar, we did not lose a single colony out of doors. But it would hardly be fair to attribute this latter success entirely to the benign effects of "out of doors." For many years my bees were kept partly in the Langstroth and partly in the American hives. But two or three years ago I induced a nephew who is living with me to learn the bee-keeping business, and so have myself escaped its labors. I was tolerably well posted, but he has gone far ahead of me, and I now regard him as a very well informed bee-keeper. Soon after he commenced the work, I had to provide him with a lot of books and various bee journals, and also sent him a couple of times to visit Mr. Charles Dadant, the noted apiarian of Hamilton, Ill. He returned, thoroughly indoctrinated with Mr. Dadant's system, upon which our bees are now managed. Our

old hives have been wholly discarded, and we now use a thoroughly well made Quinby hive. It is shaped like the old Langstroth, but is much larger.

When we came to the question of wintering, last autumn, "Fred" decided on a "new departure." He prepared the hives for wintering by removing all of the frames, excepting from four to six in the centre of the hives. These were placed in their usual position, with a "division board" at each side. This left a space between the division board and side of the hive of about three inches. This space was filled with chaff, closely packed. Then a stout piece of brown duck cloth was spread on the top of the frames, reaching to the outside of the hive all round. The top of the hive was then filled with chaff, which came down in contact with the cloth as soon as the top was placed in position. The bees were in this manner surrounded overhead and on each side with chaff, one of the most excellent non-conductors of heat. The back ends of the hives which faced the north were made double. It will thus be seen that for cold weather we had a very warm hive. The only ventilation was at the entrance, which was always much contracted. When winter fairly set in, we procured several loads of coarse slough hay, and built a hay-cock over and about the hive—except that the south end of the hive was exposed. Some loose hay was left conveniently at hand, and whenever a cold snap or a "blizzard" came along it was snugly filled in front of the hive—fully protecting it from the rigors of winter. When the temperature became milder, the hay was removed from before the entrance, so that the bees could fly out at will. They went through the winter in fine condition, and were always wide-awake and lively. We like this plan so well that we shall try it again, with little change, aside from making our arrangements as perfect as possible.

Of course it will not do to be egotistical about any plan for wintering bees which may happen on a single trial to prove successful. But it really seems to us now that this mode is calculated to secure to "The Blessed Bees" more of the conditions necessary to perpetuate insect life through the winter than any other with which I am acquainted. One great reason why bees are lost so frequently is this: There are days and weeks during which many owners know little or nothing about the condition they are in. It is during these seasons of neglect or ignorance that most losses occur. If we left any other species of live stock for long periods, without knowing clearly their precise condition, immense losses could not but be frequent. We neglect our bees, leave them to suffer from a lack of some of the necessary conditions of their existence, and then wonder why they die! There is, of course, nothing original about this plan, but it succeeded so well with us upon one trial, that it may be worth the consideration of other persons similarly situated.

Boys' Department.

A BOY'S TRIALS IN DIVIDING AND INTRODUCING.

THE queen came in good condition without the loss of a bee. When I ordered her, I agreed for the first swarm that should come from one of my neighbor's colonies, which I intended to divide, as I hated to destroy the black queen, and thought by dividing and feeding I could make two good swarms by fall.

The hive was filled with fdn. and removed to my place the night after swarming. I allowed them to stay on stand No. 1 for two days, and then attempted to divide by putting another hive filled with fdn. in its place, and putting them on stand No. 2. Every bee that came home knew the hive was new, and would run all over the hive inside and out. I found this would not work, so I hunted up their queen and put her with them, and thought I had done it now sure, because I supposed that not more than half of the bees had ever left the hive on No. 1 stand, in the two days they had been there, and when they *did* leave now, they would come back to No. 2, even if

there was no queen. In about an hour, there was a commotion about both hives, and by night every bee was on stand No. 1, leaving their old hive with fdn. nearly drawn out. The next morning I changed hives again, putting a frame of brood and honey from another hive in the empty one, on stand No. 1. Of course, every bee that now went out from No. 2 would come back to stand No. 1. After about half had got into the empty hive, I put all of the old tables and hay caps I could find in front of No. 2, and every bee that came out thought it was in a new place, and would circle around several times, and when it came back, came back *there*, although, only the day before, when they went out from that stand they came back to No. 1.

Now, after I had left the Italian queen over the frames two days, came my first introducing. With four of my friends to see the sight, and my mother to help, and the smoker well loaded to quiet them, we proceeded. I filled the hive with smoke, lifted up a frame, and let her out with her bees. No notice was taken of the bees, but the minute she touched the comb they were after her, and were bound to sting even when smoke was blown right in their faces. I should think every bee in the whole hive knew she was let out, by the way they acted, running around as though crazy. I caged her as quick as I could, but now all of her bees were in the hive, and I did not know what to do. I was afraid she would not live alone, but, if bees from that hive were put in, they would sting her, so I left her all alone on top of the frames. I tried her for five days afterward with the same result. Every time she was let out, she would go peep, peep, and then every bee was after her. Four times she flew away. She would be gone about five minutes, and just as soon as she would light upon the frames, they would ball her. The sixth day, I found they had no honey, so I began feeding inside the hive, but some colony began robbing them, or I thought so by the fighting and pulling on the outside, and so I dared not try her for two more days. After the poor thing had been alone eight days, she was tried again. There was no more notice taken of her this time than of any other bee, and no peeping. She appeared happy, putting her head in almost every cell, and looking the hive all over.

Now, did the feed make any difference about their taking her? and why do they not sting her right off, when they are so cross? Some of them would do their best to sting her, and I thought they would succeed before she could be got away. I wish they would be as long in trying to sting me. I have to wear a veil and gloves, and then get stung through my clothing, while mother can put her bare hand any where among them, and pick up the ball with the queen, or do anything she wishes.

There are two entrances to my hives, one at top and one at bottom. Which should be left open in winter, when the hive sits near the ground? Would it be right to cover the lower with wire screening? What is the value of chestnut trees for honey? They are plenty here, and covered with blossoms, but there is not much honey coming in.

JAMES P. MELZER.

Milford, N. H., July 10, 1880.

If you succeeded after all, my young friend, you ought to be proud of your success, and glad of the vast amount of experience you have obtained with just one queen.

I think, if I were you, I should be proud of my mother too, when she seems to be such an expert with cross bees. Your feeding doubtless contributed very much to make the bees peaceable.—I would have but one entrance in winter, or, in fact, at any other time. The one near the top would let out the animal heat, that you wish to save as far as possible, and I would not cover any entrance with wire cloth, for it will only annoy the bees.—Chestnut produces some honey, in some seasons, I believe, yet we have never had any evidence that the bees gathered very much from it.

DEPOSITORY OF

Blasted Hopes.

Or Letters from Those Who Have Made Bee Culture a Failure.

I WANT one of your best Italian queens,—one that means business, one that will gather honey when there is none. What are your prices for the same? Bees have been a complete failure this year. I have over 100 swarms and not one pound of honey yet, and shall not have any white clover. It is all killed. Buckwheat just coming on, and I am in hopes they will get honey enough to winter.

J. L. ANDERSON.

Lawrence, McHenry Co., Ill., Aug. 9, 1880.

Well, friend A., I have not quite succeeded in getting bees that will gather honey when there "ain't any," but, with the aid of the Simpson honey plant and the Holy-Land bees, I think we shall be able to secure a crop where there *wasn't any before*. We are now right in the midst of the most severe drouth we have had here for years, but the Simpson plants are carrying a great army of bees right along day after day, from daylight until dark.

We have had the poorest honey season ever known up to date. There was not even pollen for the bees through June. Rain spoiled all the basswood; something spoiled everything else.

H. ROOP.

Carson City, Mich., July 12, 1880.

I am beaten again on Bees and Honey. I lost last winter 45 out of 52, and had only one good one at that. I bought 12 and got one swarm. Last season was the poorest season we ever saw, yet some of us got surplus honey. This season we haven't an ounce and no show for it; for the bees are poor in stores, and there was hardly any swarming in this country. Linn gave us the best harvest; it lasted about 4 days. My honey cans will soon be empty. Save your honey when you can, and have a flush for the poor seasons. I may visit you another year.

West Point, Ia., Aug. 7, 1880.

J. E. JARRETT.

"A BLAST FROM THE HEADQUARTERS OF THE BLASTED HOPERS."

This has been the poorest season for bees that has ever been known in this locality, excepting '75 which was too wet. The weather this year has been favorable throughout, yet from 150 colonies, we did not receive one swarm or a single pound of salable comb honey. White clover, poplar, and locust blossomed as usual, and the linn blossomed profusely.

The bees have enough to winter on, and that is all. This is the case all over the country. Now this is certainly not due to mismanagement as you seemed to intimate last month, as our bees were carefully attended to by our bee-keeper, who was to receive half. He even fed grape sugar in the spring to stimulate breeding, but his labor is all lost. Now isn't this "beesness"! He will go to Florida in the fall.

D. B. ULERY.

North Hampton, O., Aug. 8, 1880.

We have 105 colonies of bees, and have taken off but 40 lbs. of surplus honey. But little honey has been made in this vicinity. We have reports from over 50 apiarists.

B. SALISBURY & CO.

Battle Creek, Mich., Aug. 9, 1880.

I have had very poor luck this year with my bees. If I never had any better, I wouldn't give a snap for the biggest apiary in the country, all in Simplicity hives, as mine are.

ALBERT GREELY.

Foster's Crossing, O., Aug. 16, 1880.

Honey crop a failure.—

MRS. L. HARRISON.

Peoria, Ill., Aug. 10, 1880.

I have 40 stands of bees, and not one ounce of honey for me. White clover has been in blossom plentifully since the first of June, yet there is but very little honey in it.

R. H. PHELPS.

Edgerton, Rock Co., Wis., Aug. 7, 1880.

We have no use for fdn. here, as far as honey is concerned. I have one young swarm, and do not know of more than 7 or 8 within several miles of here. I looked over 6 colonies this morning, the poorest I have, and they were about half filled with bees, and had not more than $\frac{1}{2}$ lb. of honey each. We had no clover honey. It has been very wet, but is now dry. Not very many colonies can live through the winter, without feeding, unless we have honey dew, or a flow from fall flowers.

A. G. FOSTER.

Ottawa, Ill., Aug. 9, 1880.

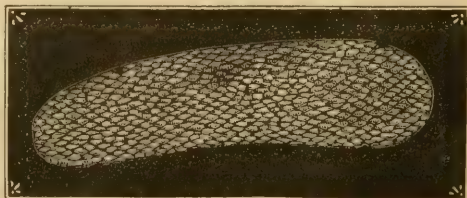
HOW TO MAKE MONEY, AND HONEY (BEES) IN JULY AND AUGUST.

AND QUEENS' EGGS UNDER THE MICROSCOPE.

ONE of the small apiaries of 7 hives was given me to care for, and one would naturally suppose that it should thrive beyond precedent, under the direct supervision of such a weight of knowledge and experience. Ahem! In less than a week one of them "thruv" so exceedingly that they sucked the juices from all of the unsealed brood, and were uncapping the capped in the vain hope of finding a little nourishment wherewith to keep them one day more from starving. I discovered the situation at a time when I expected every moment to hear a call that the printers were out of copy, and the clerks waiting to have letters read, so they could go on with their work, so I just "cut" into the honey house and got a frame of maple sugar, and hung on the outside of the cluster. They were so weak that, had I given them any sort of liquid food, they would have been robbed out at once. When I hung the frame in, the bees were scattered in a demoralized condition all over the hive, and the queen was

alone by herself, away down in one corner. When I got time to go out again, what a change! The few scattered bees had selected a spot in one of the empty combs, and the queen was in the centre of the little circle, laying eggs, evidently with a view of making up for lost time. What few could be spared were bringing water at a great rate, rows of maple sugar honey encircled the empty cells made ready for the queen, and, as I moved the combs, they showed fight in such a true bee-hive style, that I actually had to laugh. As the weather was very warm, the queen kept on enlarging her circle, and as soon as brood was capped in the centre, they paid no further attention to it, but kept nursing the young larvæ, until we had the queer spectacle of a hive containing considerable sheets of sealed brood, with only a few hundred bees around the outside edges. The young bees are now out, and the swarm has rapidly run up to respectable numbers, but they have used up all their sugar, and have scarcely an ounce of honey in the hive again. The frame of sugar was transformed into yellow Italians. I have since done the same thing with the best quality of grape sugar, and it works almost as well. I do not know but that neighbor H. was pretty nearly right, when he said a pound of maple sugar would make a pound of Italian bees. With the pollen gathered from corn and other sources thrown in, I rather think it would. The sugar is worth 10c. a lb., and the bees a dollar. What sort of a chance is that for making money, during these dry, hot days, my friends? Eh? To save the bees the labor of carrying water, I now put a Simplicity feeder full of water right by the side of the frame of sugar, and use none but wired frames for sugar, that it may not fall out on the bees. I had some rare fun with my apiary, I tell you, even if it was dry weather, and since the honey yield has opened again, I tell you they have all "thruv."

Oh yes! That queen laid such large eggs that I had Ernest examine them under the microscope, and below, our engraver has given you a picture of what they looked like.



A QUEEN'S EGG UNDER THE MICROSCOPE.

The lace penciling is so fine and delicate, our engraver could not well make it; but the net work is about correct, only the lines should have been much lighter. Eggs from other hives showed about the same, only these are considerably larger. We find that eggs differ much in shape even from the same queen, as well as in size.

P. S.—Why cannot any queen and a few bees be built up, as was the above? I only know that I have not always succeeded so well, but I do not know whether the fault was with the queen, or bees, or both.

BEES OF ARKANSAS.

AN article in your July No. from Mr. Gerome Wiltse, Nebraska, invites the following:

Your correspondent communicates something new to me relating to the bees of Arkansas, and it is so novel that I am disposed to have my say also, so that such men as Professors Cook and Hasbrouck may determine whether or not we have an infinite variety of the honey bee in this state, indigenous as it were to the country, besides the black, Italian, and hybrid. Mr. W. speaks of native bees of this state, purchased by him with one or more yellow bands; while I am very far from denying his statement on the subject, I shrewdly suspect some adventurer had, in advance, carried Italians into the country, from which he procured a lot of hybrids. I base my belief on the fact that I have lived in the state over 30 years, and made a specialty of examining the physical appearances of the honey bee all over the state, having been in nearly all the counties, and up to this present writing have met only three shades of the native honey bee. I say native because I think the native question is settled. The first, and by far the most numerous variety, is a bright brown bee which when clustered in swarms has more a tinge of yellow than black, hence I call it brown, as it really is; the next in numerical strength is the black bee emphatically; and the least numerous is a grayish, dark bee, not gray from recent development, as all young bees are, but gray through life. These varieties are common in this state, Tennessee, and Mississippi.

Many years ago I thought the black bee borrowed its color from being reared in very old, black combs; but later observations convinced me that such was not the fact. I have each variety now in full blast in my apiary at Council Bend, Ark., where all show their distinctive character, whether reared in old or in new combs. Not being able to reconcile my observations with the views expressed by your correspondent, I am inclined to believe that his yellow banded bees had been early introduced into the country, or he has mistaken the light brown bee above described, which is very common all over the state. Now I assume all the species of honey bees belonging to the same genus are but one species varying in external features, as do many of the vertebrated animals. If not of the identical species, how can you account for the prolificacy of the offspring when you blend the black with the Italian, or Cyprian, or Egyptian, or with the Holy-Land bees? They are undoubtedly of the same species, and of course the word hybrid is a misnomer to the mixed varieties, which generally are more prolific than either parent,—a result from infusing new blood and a different energy into the offspring, just as stock raisers avoid in-and-in breeding for the same purpose. Now I am not prepared to say a hybrid in the insect creation is amenable to the same laws which obtain in the propagation of the mammalia. I am not prepared to say the hybrid insect is impotent to propagate his race, but the laws of reproduction are so well known in the vertebrated races that we are inclined to the assumption that nature, ever true to herself, has attached the same undeviating law of propagation to insect tribes. I have known hybrid, aquatic birds to hatch about one egg in eight which had all the characteristics of the mother hybrid, but here I suppose the vivifying influence of the sire, muscovy duck, extended in a feeble degree to

the second generation, where it became extinct. The hybrid bee will produce many generations of its kind, but will eventually assume one of its original types. G. B. PETERS.

Hot Springs, Ark., Aug. 15, 1880.

NEW ZEALAND FLAX.

HAVING seen some mention in GLEANINGS, [Vol. VII. p. 130] of the honey producing qualities of *Pharmium tenax*, or New Zealand Flax, I thought that I could not do less than send you a few specimen parts of the plant. I have been rather long about it, but here they are at last. This plant is very common in New Zealand, and is perhaps the most striking feature in every landscape. To the natives it is of indispensable value. They make many things useful, and some things even elegant and artistic, of it. A Maori woman would squat down by a flax bush, and make you a basket in no time. By the settlers, it is made into tow for stuffing mattresses, &c.; also into cordage. The children know all about it; the leaves furnish swords, and the flower stalks, guns and whipposts. The leaves are easily split into strips, plaited into ropes, bridles, whips, &c. In fact, almost every purpose to which boys put twine, is met by the flax bush. The wagoner makes his whip lash, ties his boots, mends his harness, &c., with flax which he cuts by the way side. The farmer ties his sacks of potatoes with the same, and many other everyday needs are supplied by this plant. In the honey season, don't the "boys go for it," and stand there by the half hour together, pulling down the long plant stalks, breaking off the coarse, dull-red flowers, and sipping out the nectar? The bees also go there I believe, as they often come home covered with dark yellow pollen, which would be sure to be the case if they made the descent into those deep flowers; but on this I must make observations.

I enclose a picture of this plant in its glory, which will give you a better idea than any description could do. As to the time taken to grow to the size of that in the picture, I have no idea. They seem to have stood for ages, and are always developing. The parts I send are as follows:

Section of flower stalk at 3 feet from the root. Section of same stalk at 9 feet from the root, and 1 foot from the tip. Sprig of seed pods gathered green. Part of a leaf or blade, showing how the fiber is exposed to view by the action of wind and storm, or by the chewing of cattle. Section of blade at 3 feet from root. Tip of same at 5 feet from root. Packet of seed gathered ripe.

WM. HENRY CLEMO.

Waimate, Canterbury, New Zealand, July 16, 1880.

Many thanks for the trouble you have taken, friend C., and for your beautiful specimens, which reached us in excellent order. If I am correct, the plant has already been grown by some of our Southern friends, and I should be very glad of reports from it. I will try the seeds you send here, and will give a few to any friend further south, who wishes to test it.

In answer to several inquiries as to the pronunciation of the word Cyprian, we will say that it is pronounced in three syllables, with the accent on the first, and as if it were spelled Sip-re-an.

FROM THE A B C CHILD THAT GREW SO FAST.

HOW HE WINTERED HIS BEES, AND HOW HE IS GROWING NOW.

AS nearly one year has elapsed since I wrote you, I thought I would drop you a line to let you know how I get along. I went into winter quarters with 27 swarms of bees. I weighed every hive, and no one had less than 45 lbs. by weight of honey. Some had 75 lbs. I put them in a dry, dark cellar, after placing over each a chaff cushion, 4 in. thick, pressed down on the frames in the upper story. I put sticks across the frames for the bees to cross over. The temperature was about 45° all the time. I set them in, very quietly, at night, Oct. 31st, 1879. All was well until Feb. 15th. First I would say that there was not one day all winter when I could set them out. Feb. 15th, 5 had dysentery badly, and soon died. Later (in March) *all*, except 2, took the dysentery, and, Apr. 1st, 13 had died. I set out 14 good swarms, but they were badly bloated, and could not fly. These dwindled down to 2 frames, and every queen died but 3. The 2 swarms which did not have dysentery built up rapidly. New queens were reared for the others, and new hives furnished them, with cards of June honey which I had saved. Division boards and mats were used until May 15th, when all filled their hives. I had not one colony that consumed less than 42 lbs. of honey, and several consumed 75 lbs., while in the cellar. The weather during Nov., Dec., Jan., and Feb. ranged from zero down to 40° below; but I shall never put a bee in a cellar again. It was not damp, as I placed gun powder on chips lying on the bottom of the cellar, in the 4 corners, and, on Apr. 1st, touched it off, and it burnt as well as ever. The insides of hives were daubed and black, and emitted a foul odor which killed the bees, I think. One of my neighbors lost 85 and another 65 in the same way. We will hereafter risk them outdoors. All bees wintered in box hives outdoors did well.

I now have 26 swarms, every one with a young queen, bred in June, from the imported queen I got of you, which I saved. The season has been one continual flow of honey since May 1st. I keep all stocks strong by dropping a laying queen into each old stock, as soon as the swarm is out, first cutting out all queen cells, with which I restock the nuclei. Thus I have no second swarms, and no hive is without a laying queen over night. I have done this with 23 stocks, and it has been a success in every case. I never had a swarm come out of a hive after being hived. Mine are under apple trees, and covered with green shade. I think the hive needs to be shaded before swarming, the bees disliking the stand in the sun. Being contented before swarming, they cluster near, and stay in any hive. Clipping queens' wings insures their being superseded at once with me.

I cannot use the Langstroth hive here. It may do down in Ohio, but here we have 6 months winter and 3 of them average 20° below zero throughout. I use the Modest hive. In the Quinby, combs break down during every heavy yield. My stocks are all immensely strong, and storing about 12 lbs. per stock each day, and from red clover *too*, and the Mammoth at that. Let those who never saw bees work on red clover come here, and I will show them 50 acres with the whole working force of 26 strong swarms of bees spread out upon it, nearly one to

each blossom; and I have this day seen bees sip their fill from one tube, and leave for home. I examined some and found them full, and over a drop can be pushed out on the hand.

I use Dunham fdn., full sheets, made one year ago, about 5 feet to the lb. I have had strong stocks draw out a full sheet into comb one inch thick, and store 2 lbs. of honey in it in just 8 hours from the minute of insertion. This I discovered by going to an upper story to get a frame for a new swarm, and was so surprised that I weighed them. New swarms drew out combs and filled them, so quick that eggs were found in only one comb in the hive at the end of a week. I have been obliged to extract from the brood chamber each night, at sundown, to give the queen the start of the bees, and then they would dip up so much that by morning some were blocked up again. I have raised a good number of queens and shipped away, besides many sold here. Every one has proved to be extra prolific, and worth \$5.00 for business. I think this is due in part to the cells being made under the natural swarming impulse, and only the slim long ones saved, and in part to the great honey yield, making the workers and drones fly with such great vigor and hurry. I have several queens which have just commenced laying, which I will sell at \$1.00 each. If I had bees enough, I should employ my whole time with them, as they have paid me \$26.00 per colony so far.

Arcadia, Wis., Aug. 5, 1880.

E. A. MORGAN.

I fear, friend M., that your bees were so strong they were *too* warm. Had they been out of doors, they probably would have been about right. I have come pretty much to the same conclusion with yourself, in regard to putting bees in cellars. I am very glad indeed to hear you have such an excellent flow of honey; with the flood of Blasted Hopes, because the season has been so poor, your letter—the latter part of it—seems refreshing. I think you are a little mistaken about the L. frame. You know one of your besetting sins, friend M., is jumping hastily at conclusions. Two lbs. of honey in a sheet of fdn., in only 8 hours, is the "tallest" report for fdn. on record, friend M. California will have to "take a back seat," if all your neighbors are having the luck you do. At least a few of us remember your reports of a year or two ago, and I assure you we have felt interested to know how you were prospering by this time.

CALIFORNIA.

Our season is about closed. We only have $\frac{1}{2}$ a crop,—12,960 lbs. of extracted honey from 100 weak hives to start with.

M. C. WOODSON.

Atkinson, San Diego Co., Cal., Aug. 12, 1880.

Father and myself are located one half mile apart. We have about 270 swarms between us. I have not as yet put on a box for surplus. I have kept bees about 20 years, and this is the poorest season I have had. My bees have not, on an average, 8 lbs. to the hive. We have been sowing buckwheat. My enjoyment is not confined to the amount of honey or gold that I may possess. I expect to greet you some day with a happy greeting.

WILLIAM TROYER.

Annawan, Henry Co., Ill., Aug. 3, 1880.

[Thanks, friend F., for concluding words.]

ITALIAN QUEENS CHANGING TO BLACKS AND HYBRIDS.

AN IMPORTANT ITEM TO BE CONSIDERED.

THERE has been a good deal said about queens laying eggs of one kind, and then changing to those of another kind. Perhaps my experience will help to explain this subject. Last fall, I destroyed all my black and hybrid queens, and united their bees with other colonies. This was done late, after all egg laying had ceased, so there could not have been any young queens reared after that time. In the spring, when the young bees hatched, I found that a large per cent were hybrid, and some quite black. All the queens left in the hives in the fall had their wings clipped, but these blacks and hybrids were not clipped. Consequently they were new queens, but how came they there? That question bothered me for a long while, but I have settled it as follows:

Last year was a very poor year for bees, and a great many left their hives, and swarmed over the country. I remember being in my bee yard when I noticed an increase in the number of flying bees. Afterwards, I found a small swarm—about half a pint—hanging on one corner of a hive. This summer I saw the same thing repeated, except that they settled on a limb, and before I got them put in with one of my lightest colonies, another swarm came and went in with them, without settling. Each of these swarms had a queen, but so few bees that I should not have noticed them, had I not been among the hives. I am satisfied that it was such little swarms with their queens, coming into my hives unnoticed, that changed them from Italians to hybrids. Instead of the queens being changed, they were *exchanged*.

E. S. EASTERDAY.

Nokomis, Ill., Aug. 7, 1880.

Many thanks, friend E. I think there is no question but that you are right, and if this were borne in mind, it might help to settle a great many of the disputes and differences about the way imported and tested queens often turn out. A friend has just returned an imported queen that he says he thinks produced good Italians when he first got her, but produces now, some bees absolutely black. After a dry spell, or after a dearth of honey, we often see these little swarms of stray bees, and often find the queens too. I have good reason to believe they sometimes find their way into hives, and not unfrequently displace the reigning queen.

BEE BOTANY AND ENTOMOLOGY.

MR. ROOT:—You will find enclosed four specimens of honey bearing flowers. Please give me the common names of them. The one with the round white blossoms is a small shrub which grows in low, wet ground and in ponds. It begins to bloom about the middle of June, and, from the way the bees work on it, it surely yields an abundance of honey. The one with the 4 heads on one stem beats any thing I ever saw. The stalk from which I send you a sample has 350 such stems, and it is the only stalk I know of; the bees are on it in a perfect swarm from sunrise till sunset. The one with the yellow blossoms is what we call Kale. We have a few stalks in the garden, and the bees

are very busy on them. The one with the pink flowers grows spontaneously on waste grounds and in fence corners. Please give me the names of these through GLEANINGS and oblige—

ELIAS BERG.

Cicero, Ind., July 20, 1880.

The first is the Button Bush, mentioned last month. The second is Bee Balm or Horsemint, also sometimes called Wild Bergamot. It is a near relative of the Monarda Punctata, which has been advertised for years as a honey plant. The last we were obliged to send to Prof. Beal, and below is his reply:

The specimen sent is *Teucrium Canadense* (American Germander or Wood Sage), a mint, good for honey as nearly all mints are.

W. J. BEAL.

Agricultural College, Lansing, Mich.

A NEW HONEY PLANT, ASCLEPIUS TUBEROSA.

The specimens received with the three following letters, so far as we could see, were exactly the same plants.

I found a wild flower the 25th of June, which was a stranger to me. I thought it very pretty, and took it up, and brought it home. I set it in the yard, where it had not been more than 5 minutes before there was a bee on it. I watched him until he was loaded, and it was not long before he returned. The bees work on it all day. It must be a good honey plant. I have been looking for more, but have failed to find any more of them. It is a small yellow blossom, growing on a small stem about 1½ in. long, and in bunches of about 20 in a bunch. It is still in bloom. The main stalk is two feet high, and very stiff and hard, and about the size of my little finger. I send you a small bunch of the flowers.

Vigo, Ross Co., O., July 12, 1880. JOHN MOTES.

I send you to-day a stalk and blossom of a plant I have not seen mentioned in GLEANINGS. It grows in a cluster of 12 or 15 stalks, to the height of about 2 ft., and is crowded with flowers, in shape like the milkweed, but of a bright orange color, and presents a beautiful appearance. I sometimes see 8 or 10 bees on a bunch, and almost always several, and I have observed that it is honey they are after, and not pollen. I know of no plant here at the west so uniformly visited by the bees, when in bloom, which is of several weeks duration. The root, a long tap root, is perennial, and does not spread like milkweed. I think botanic physicians use the root as a febrifuge, and call it "white root," but I am not certain. I don't know how the seeds grow, whether in pods on the sides of the stalk, like milkweed, or not. If you have not the plant with you, and wish a root, I will send one or two in the fall. There is no "milk" about the stalk.

STEPHEN YOUNG.

Memphis, Mo., July 6, 1880.

Prof. Beal:—To-day I send you specimen of a honey plant found growing wild in this locality, although very scarce. The plant grows about 14 inches high, has large clusters of very dark orange colored blossoms, which are covered with bees from morning till night, and in all kinds of weather. If it is not a noxious weed, it will be a good honey plant here, coming into bloom as it does just at the close of the white clover season, and continuing to bloom 6 or 7 weeks.

J. H. REED.

Orleans, Ind., July 26, 1880.

To all the above Prof. Beal replies as follows:

The specimens sent are *Asclepias Tuberosa*,—Butterfly-weed or Pleurisy-root. I have received it before as a bee plant. It is one of the milkweeds, and thrives in dry hill-sides and fields, but does not contain much milky juice. It is a very pretty plant, and is sometimes cultivated. W. J. BEAL.

Michigan Agricultural College, Lansing, Mich.

I would especially commend the course of the friend who carefully took the plant up, and placed it in his own garden. If more will do this, we shall soon have not only a band of experimenters, but some valuable knowledge of the value of the honey plants of the world, in different localities. You that have not tried it little know the pleasure one feels in seeing a plant blossom under the stimulus of the cultivation of his own hands, and then in seeing the bees begin to work on it.

MINNICH'S HONEY PLANT.

I send you a package of roots of the same honey plant of which I last fall sent you the seed. They should be planted in *strong, rich, damp* soil. They will do well on the bank of a brook or pond, about a foot above the water, but the soil *must* be moist. I never saw bees work on iron-wood, boneset, or mustard, but I have seen them work on this plant I send you, and fill themselves so full of honey as to fly with difficulty. As to the quality of the honey, I can not say, as there is none of this plant close to my bees; but I have set out some, and will be able to tell in a year or so. In good soil, this plant will grow seven feet high, with from three to twenty stalks in a hill, each bearing on its top a head of lilac colored blossoms, the size of a peck measure, and a hill in bloom is beautiful, to say the least. It blooms about the first of Aug. or last of July, and continues in bloom for a week or ten days. As it is exceedingly hardy, thriving in stiff sod, and a perennial, it will be no trouble to propagate it, if that is all that is needful. I hope to hear of its success with you as a honey plant. C. S. MINNICH.

Gratiot, Licking Co., O., Apr. 20, 1880.

These roots were planted down by the pond, and as they shot up tall, beautiful stalks, having six large leaves equally spaced around the stalk at nearly regular distances from base to top, it became a plant of considerable interest to us. It is now in bloom, and not being able to name it, we sent a leaf and flower to Prof. Beal, who replies as follows:

It is *Eupatorium purpureum*; trumpet weed,—Joe-Pye weed. It has often been sent as a bee plant. Many of your readers would be astonished at the large number of species sent by bee men as good for honey. Remember my article some time ago, in which I said there were east of the Mississippi over 1500 species, all good for bees where they grow in sufficient quantity. W. J. BEAL.

Agricultural College, Lansing, Mich.

The bees work on it all day, and it is pretty thickly covered with them. Further facts in regard to it, will be found under OUR OWN APIARY AND HONEY FARM. Specimens of the same plant have been sent by a number of our readers.

CALIFORNIA BEE-KEEPING.

LIPPIDIA NODIFLORA.

THE time of the year is fast approaching when our Southern California bee-keepers will have to wait for the rains of next winter to moisten the ground, before they can expect much more honey. It is not so with us however, for the *Lippia Nodiflora* is growing, flowering, and yielding honey more abundantly than ever, although irrigation has failed some time since, and the ground is dry and dusty every where. The bees are so busy gathering the nectar from the flowers, that they scarcely notice you when taking the full sections away and replacing them with empty ones.

SINGLE TIERS OF SECTIONS VERSUS WIDE FRAMES.

I am fully satisfied that it is no small job to put together the sections, and put in fdn., and change them for filled sections on the hives, for I am only two weeks behind time, though doing my best, and almost giving out, and the queen nursery not looked at to-day. I am already satisfied that I would like your one tier of boxes in the shipping case, ready to go to the city, when it comes off the hive.

SPIDER PLANT IN CALIFORNIA.

The bees do not notice the spider plant, although fine, large drops of honey glisten in the sunshine quite late in the morning. We have not succeeded in propagating the Simpson honey plant here, although we have tried it repeatedly. O. S. DAVIS.

Lemoore, Tulare Co., Cal.

The cases containing one tier of sections may be the least trouble, but, with a strong colony of bees, you will get considerably more honey, with the wide frames and double tier. Your spider plants are too few. Our field of them, now (21st) is covered with bees in the morning, beyond anything I ever saw before.

FRIEND MARTIN'S APIARY.

AND SOMETHING ABOUT HOW HE GOT IT.

HARDLY expected you would make an engraving of our apiary, but as you seem determined to spend your money on pictures, I will give you a little description of the place.

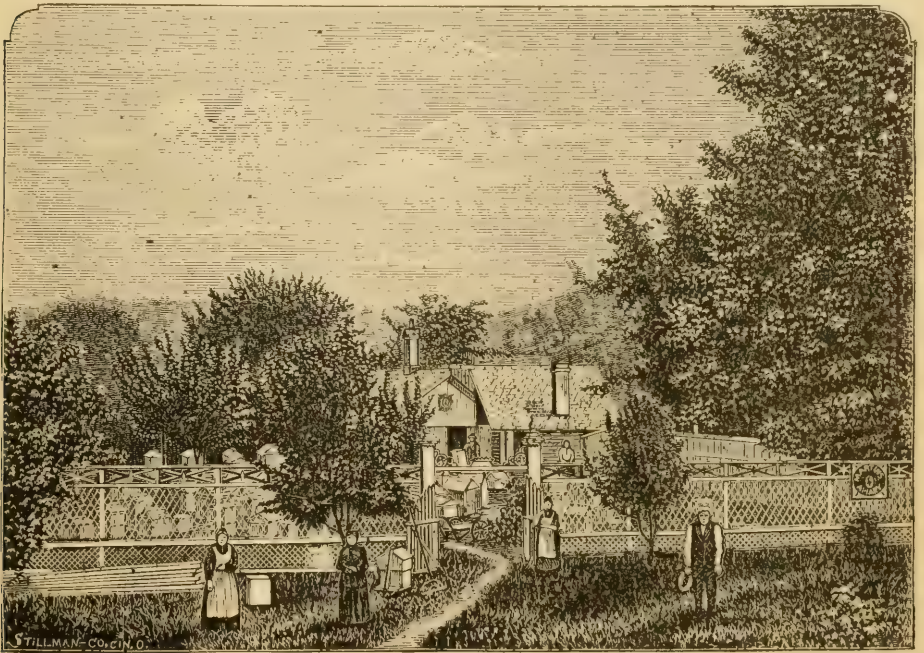
I think much of the photo, for, in looking at it, I see the work of my own brain and hands, as an expense of less than \$10.00 cash has paid for all labor except my own. I have been my own laborer with spade and hoe, my own architect to plan and execute, and my own artist to paint and adorn. I have put up my bee house by piecemeal; first my wintering house, then my store room for honey, and then my room for working up wax, etc. I also use this room now for extracting. I have a drop of 3 feet from this room to the next room, and honey can be run directly from the extractor into barrels without lifting.

The large hives in the center are chaff. I use a two story hive, size of frame 14x14, and run mostly for extracted honey. Like friend Rue, I adopted this frame in 1874, from your recommendation. I now make them just 11x14 and have over 2000 of them in use. It would be very convenient if we all used the same sized frame, but that day will never dawn. As long as every bee-keeper can tinker up his own hives he is sure to get his frames an odd size, even if he get everything else right; and where extracted honey is the object, I am strong in the opinion that it makes no difference what sized

frame I use. It is more in the man who manipulates the frames than in the hive or the frame. I use my frames on the Simplicity plan, using sometimes three stories in height, and have them full of bees from cellar to garret. I can use fdn. in the frames as well as in the L. frame, and don't exactly understand why the advent of it should cause any one to decide for any particular frame.

My chaff hives are made on a little different plan from the regular style. I use one of my common hives for a second story, and can easily lift it out when I wish to examine the lower story. I have one that requires the lifting out of the upper frames to get at the brood frames, and I seldom try to examine it, and wouldn't adopt that style of hive if they were given to me. My bees have wintered as well in the cellar as in chaff, and I shall stick to the cellar yet for the greater number of my bees.

possible to produce comb honey with ease and certainty. The most practical way of getting good yields of comb honey is above the brood; this is pretty generally agreed to. If we were using the extractor exclusively, we could take out the whole comb, and extract the honey, letting the brood remain; but for comb honey, the most feasible way seems to be to use a shallow frame. I know there are a few who do not agree to this, but I am speaking of the great majority. The L. frame was the most general in use, if I am correct, before I strayed off, as I did temporarily to the Adair frame and hive, and therefore the sooner I went back after I saw my mistake, the better, I thought and now think. I have before stated that I did not intend to advise those to change, who have many hives and frames all alike, of dimensions that please them. Those who have



J. H. MARTIN'S APIARY, HARTFORD, N. Y.

As stated and described on page 282, Vol. VII., my apiary is laid out on a circular plan, and I think it is about as handy as any way I ever tried. It is well shaded with a fine lot of plum trees, grape vines, etc. There are now over 100 swarms in the enclosure, and I think of enlarging a little on the east, beyond the bee house.

Our yield of honey this season has been short, and the crop is about half the quantity secured last year.

J. H. MARTIN.

Hartford, N. Y., Aug. 4, 1880.

Thanks, friend M. I strongly commend your idea of being the architect not only of your own fortunes, but of your own home adornments as well.

UNIFORMITY IN HIVES AND FRAMES.

The advent of fdn. caused me to turn back suddenly to the L. frame, because it made it

but few, or but few of any one kind, or who have not yet decided on any especial frame, I would by all means advise to fall into the beaten track. Thousands of beginners are adopting uniform hives and frames daily, and although our orders are now increasing at a great rate for the regular L. hives, frames, sections, etc., each season, the demand is rapidly decreasing each season, for odd-sized goods. The young bee-keepers who have been educated to use the L. frames are more disgusted than one can well imagine whenever they by chance are called upon to open hives containing Gallup, Adair, American, Quinby, or other frames. The matter of buying and selling bees is getting to be one of great moment, and this feature alone almost demands that we shall have uniform hives and frames.

ARE LARGE APIARIES A NUISANCE?

I PRESUME the above is what the papers are trying to discuss, but some of the items are a little amusing, if nothing more. See:

THE TOO BUSY BEE.

Whether the crushed worm ever did turn or ever will turn against its oppressor is a question which must be discussed by naturalists, but, to judge from recent accounts from Paris, the bees have organized a very practical system of retaliation on man the despoiler, and have suggested quite a new reading of the old saw, "*Sic vos non vobis mellicatis apes.*" One of the inhabitants of the Nineteenth Arrondissement keeps from 800 to 900 bee hives, and a very large number of hives are to be found in the Thirteenth Arrondissement, near the Ivry goods station. The industrious denizens of these hives are making war right and left on the sugar refineries. At the Say manufactory it is calculated that damage to the amount of 25,000 francs is done every year by the bees, who are so indefatigable in revenging themselves on the saccharine interests of mankind that they will empty a large jar full of sugar in less than two hours; and notwithstanding the capture or destruction of two or three bushels of bees a day, their ravages still continue. The workmen in the sugar refineries usually labor with only a single garment—not an upper one—on their bodies, and they are not only robbed but terribly stung by their busy foes. What would happen if all the bees in freedom became unanimous is fearful to contemplate. It is hinted, indeed, in Kirby and Spence that the world could not go on for four-and-twenty hours in the presence of a general entomological rising.—*Pall Mall Gazette.*

THE DEADLY HONEY BEE.

It is a disadvantage of civilization that it shows us the dangers to which life is exposed. Every year presents us with a new peril, and the latest is always the least expected. Frenchmen of science are now preaching a crusade against the industrious race of bees. Not only are they destructive to property, but they are actually dangerous to human life. The Prefect of the Paris police has been appealed to. M. Delpech has drawn up a formidable brief, and is precise in his statements and clamorous in his demands. It seems that bee-keeping is lucrative in the neighborhood of Paris, and that so also is the distillery of spirits and the refinery of sugar. Moreover, wherever there are sugar works the bees are active and abundant. At Say, for instance, the loss attributable to them is estimated at £1000 a year. M. Delpech gives facts and figures. At another refinery the number of bees killed daily amounted to 25 gallons full. He himself saw a large glass of syrup drank up in two hours. As to loss of life he is equally circumstantial. He gives a full list of people who died of bee stings in the course of the year. Most of the cases occurred in America, but many are furnished by France and some by Germany. The death is very painful, and in some cases extremely sudden. At Chemnitz, in Hungary, a peasant, stung while cutting a branch of a tree, died on the spot. At Chester, in Pennsylvania, a farmer examining some hives, was stung, fell at once into a state of syncope, and died within a quarter of an hour. In another case 25 minutes elapsed between the wound and its fatal consequence. M. Delpech accordingly appeals to the Prefect for the protection of the police, and what he asks is that the keeping of bees may be placed in the category of dangerous and unhealthy occupations.—*London Daily News.*

ONE GOOD TURN DESERVES ANOTHER.

For the Public Ledger.

MR. EDITOR:—Seeing an article in your paper of June 29, 1880, taken from the *London Daily News*, headed "The Deadly Honey Bee," I can not altogether hold my peace and let all the world be duped by the pen of a mercenary Frenchman without a word of defense for the most harmless and most industrious of all the creatures made by the Divine mind and for the good of man. All persons of intelligent and cultivated minds know that there are conditions of the blood in man at times that a small puncture of the skin with a nail, a pin, a splinter of iron or even of wood, will occasion death—but surely not cause it! I myself have a very thin skin, and

take poison on almost every occasion, from the wind blowing over it onto me, and yet the sting of ten thousand honey bees at once leaves no mark whatever on me. Fifty-six years ago, when I was a lad of eleven summers, my father bought the cherries of a neighbor on a very large, old, sour, red-cherry tree, and sent my brother Frank and me to pick them; but Frank being four years younger than I was, could not climb the tree. I ascended to the very top of the largest branch, being at an acute angle with the trunk, and had my peck basket nearly full, and, while trying to get all that were paid for, and stretching out a little too far for the old wood, snap goes my branch, like the stem of a clay pipe, pitching me down, head foremost, a distance of fifteen feet. Oh, dreadful! what think you saved my skull from being split? and yet it was not even cracked. A hive full of "these deadly bees" saved my life, and proved themselves to be free from this Frenchman's charge against them.

Under the tree, on a bench or stool, stood a large, old-fashioned, straw hive full of bees and honey, which the lower part of my branch tipped over onto the ground, bottom upwards, beside the bench; into this hive my head was jammed to my shoulders. Being anxious to save my peck of cherries, by holding onto the basket with one hand, my feet over my head entangled in the branches, I had only one hand to work myself out with, and having no clothes on but a thin muslin shirt and thin pants, the bees covered me so completely that when I got out the owner and my brother thought I looked like a *brown hairy animal*, with a whole swarm of bees flying around trying to get a seat on me; but there were none to let; all were taken, and all occupied, and every bee left his sting fast in my skin, which took my mother the best part of a day to extricate; and painful, yes, dreadfully painful, as it was to me, there remained no mark or trace of any kind after the sting was out, and my brains were kept within my skull by the elasticity of the honey comb.

H. S., of C.

FRIEND DUFF AND HIS STORY.

MY queen arrived on the 17th, in good condition, with only three of the bees dead. The rest were all nice and bright as gold dollars. Of course, I must tell you a little about my first introducing. I brought my queen and bees home and fed them a little honey, although they appeared to have plenty in the cage. I went out to a colony of blacks, found my black queen and caged her, and placed the new queen on top of the frames. I left her about 36 hours, and went and raised the quilt. They were all nice and quiet, and busily feeding the queen. I opened the little slide, and out popped a bee. They looked him over slightly, but passed him on. Out came another, and so on. All were well received. At last, the queen stepped out and walked right down among the combs, just as though she was at home. I closed the hive for a short time, and then took a peep in, and saw that all was right. The next morning the little "Medina boys" were first at work. I went away at noon, and coming home about four o'clock, walked up to my hive and looked around. I saw no dead queen. Thought I, "I'm a fit subject for the Smilery." While I was standing there thinking of those nice three-banded bees, my wife says,—

"Andy, you have got home just in time for the burying."

"What?"

"Did you come to the burying?"

"My dollar queen?"

"Yes;" and she brought me a dead queen, which she had found in front of the hive.

"Blasted Hopes! there is my queen, dead enough. But, how black she is! She has 'mortified,' I s'pose."

Well, I had intended to send for five more queens by the next mail, but it was going to be expensive.

"That queen is surely too black for my Italian," I

thought. I went to the hive and looked it all through, but found not my Italian. I studied awhile and looked again, and found queen cells with larvae, and that sealed my fate. I looked at the black, dead queen again, and came *almost* to the conclusion she was not my Italian. I went to the hive again, picked up my smoker, and sent them "sprawling" around. I picked up a frame, and there was my Italian queen all right. Then for the Smilery again. There were two queens in the hive, of course. The new queen had killed the other one, I suppose. I think she was an old worthless queen. Her wings were badly used up. The one I took out was a very nice large queen.

Flat Ridge, O., July 20, 1880.

A. H. DUFF.

CANDY FOR QUEEN CAGES, THAT DOES NOT REQUIRE ANY WATER.

SOME time in May or June, a friend wrote me that he had received a queen from friend Viallon, in a cage containing no water; and that she came through in such fine condition, he had put his black queen in the same cage, and mailed her to me, to see if the cage would stand another trip. Every bee as well as the queen reached me in fine order. I at once wrote friend V. for particulars, and he sent me the following, which should have been in earlier in the season, but it was passed by during the rush of business.

VIALLON'S CANDY TO BE USED WITHOUT WATER.

It is with pleasure that I send you the receipt for the candy I use in my mailing cages. It is the same that I used last year, and I did not lose a single queen. This season, of about 100 queens mailed, not one has been reported dead yet, except one out of 3 tested queens that I sent to R. M. Aego, and that was caused by the tin tube containing water, which got loose and leaked. They are the only ones I have sent with the tubes, as they were choice tested queens, and I took extra precaution. I take 12 ounces of powdered white sugar, 4 ounces of Louisiana brown sugar, one table-spoonful of flour, and two table-spoonfuls of honey, stir well together, and add just enough water to make it like thick mush; then bring it to a boiling point, or if too much water is added, boil it a minute or two; then I stir it well until it begins to thicken, and pour quickly a table-spoonful into each cage.

LATER.

I again inclose you a postal card showing you that after 15 days my queens were alive with my candy, without water; but, on the 19th day, only 1 out of 5 were alive. From all the 20 queens sent to Canada, to 6 different parties, in different parts of Ontario, every one was received in fine condition. Of nearly 300 queens mailed to every part of the U. S., all were received in good condition, with the exception of 4 delayed 19 days in the mail, by my mistake of addressing them to Indiana instead of Iowa, and 3 which were accidentally killed by the candy getting loose in the cages. This I think a good result for candy without water.

From experience, I find that any candy will do with water, but the postal laws forbid liquids, and the cage presented to the P. M. General had no glass or tin bottles, and he allowed queens through the mail according to the cage presented to him, etc. Now I am afraid that the water used at present by many will cause, sooner or later, our queens to go by

some other way than by mail; not that the small quantity of water used can do any harm or damage of any kind, but because it is against the postal laws, and some over-zealous postmasters will probably find this not in accordance with the law, and may report to the department this *small* violation, and make it worse than it is.

The queen business has been pretty lively this season, and, though I have had to delay some orders on account of bad weather, I am glad to see that I have given satisfaction to all those I have heard from so far. The fact is I send out only daughters of imported queens (except in a few instances, when requested, I have sent from home bred), and sent out no queen that I would not have for myself.

PAUL L. VIALLON.

Bayou Goula, La., July 13, 1880.

I have long known that candy alone would sustain a few bees for a week or more, providing the candy was so made as to contain considerable water, and made and put into the cage the same day it was sent off. The difficulty of doing this has prevented us, so far, from using such candy. We are selling cages constantly, and they have to be made by the quantity and kept on hand, or we could not well fill orders promptly. Besides we use the same cages over and over again, by putting in fresh candy and fresh water. I have used candy made partly of honey, and the receipt has been given on these pages, and also in the A B C; but, from the great number of losses we had, I concluded the honey was worse than all sugar, and so discontinued the use of it, and took the receipt out of the A B C. Will friend V. please tell us if he finds it necessary to make the candy fresh every time he wishes to send off a queen or queens? It will, without doubt, be a great convenience all around, if the rest of us can succeed with his receipt as well as he has done.

GALLUP IN CALIFORNIA.

HOW HE MANAGES AN APIARY OF HIS OWN.

EDITOR GLEANINGS:—As the season is pretty much over for honey, I think a report will perhaps be interesting. I commenced with 48 stocks in rather poor condition. At all events, I had only about 20 queens in the lot, that could be depended upon, so I commenced superseding quite early. By the 20th of May, I had only 10 old queens left, and to-day I do not know of a last year's queen in the lot. I met with great difficulty in getting young queens fertilized, and, in many cases, after they were fertilized, they mysteriously disappeared, and apparently without any cause. The two imported queens received from you died,—one in four weeks, and the other in six; yet I succeeded in getting 30 queens from them. I increased to 113 stocks, principally by natural swarming. I have used 22 lbs. of foundation, and have a fine lot of ready made comb to supply young swarms with, and ready made comb sufficient to supply 50 supers with 8 combs each, and have 70 supers now filled with comb that I have extracted from. It has been a very poor season for comb building, many stocks refusing to build comb at all, or building very reluctantly. We have put up the most of our honey in 80 lb. tin cans. Each can has to be cased or boxed up. In using 60 lb. cans however, one case holds two cans. The cost

of canning and casing amounts to about one cent per pound. This season I have taken out, as nearly as I can figure by counting the cans, 11,500 lbs., and I think it will overrun, as it is very thick and of excellent quality. It is now quoted in San Francisco at 6½ to 7 cts. per lb., and 6¼ here at Santa Paula. Honey is now shipped to China, Australia, and Europe, which makes a brisk demand for all that arrives in San Francisco.

I have changed nearly my entire apiary to Italians, and have them in splendid condition for another season's operations. Old Californians claim that the season is at least one month shorter than the season of 1878. I have done considerably better than any one in this vicinity, so far as heard from, with the same number of stocks, so I have no fault to find. In this apiary and Mr. Hunt's, one fourth of a mile from here, we have taken about 46,000 lbs. of honey. There is abundant bloom now, but the blossoms do not produce only about as fast as the bees consume in breeding. They are now breeding rapidly. The celebrated white sage has produced almost nothing; I presume on account of the peculiar state of the atmosphere. It is cool and foggy nights, and it requires warm nights and days to produce honey. I see by the *Pacific Rural* that Keen Co. has produced no surplus; San Diego bee-keepers went in for box honey, and the consequence is their crop is very light. A near neighbor had 23 stocks and tried them for box honey, and he says that he lost at the least calculation 2,000 lbs. of honey by the operation. I think that hereafter the honey market will be more reliable even in extra good seasons. In 1878 there was a large yield, and no market established. Honey was rushed into San Francisco, and handled by commission merchants that were unreliable, and they cheated the bee-keeper out of his entire crop of honey, many not realizing over two and two and a half cents per lb. Things are now changed. There is a demand for California honey in different parts of the world. Bee-keepers are organized and getting well posted, and everything is getting into shape to make bee-keeping a reliable as well as a profitable business. Orders are now sent from Liverpool directly to the producer in some cases, and parties from the old world have been around among the apiaries purchasing by the hundred ton. So you can readily see that San Francisco sharpers can scarcely have everything their own way hereafter. I had almost forgotten to mention that I have from 150 to 175 lbs. of wax, proceeds from the 48 stocks, besides the increase and honey. Recapitulation:—Increase 65 stocks, surplus honey 11,500 lbs., wax 150 lbs., and increase in value by Italianizing and getting large and prolific queens and excellent workers.

Santa Paula, Cal., July 27, 1880.

E. GALLUP.

Thanks, friend G. I am sorry to learn that your imported queens proved so short lived, but I presume the two long trips proved almost too much for their poor little lives. The span of life of imported stock is often rather brief, and our own losses have often been so great as to make it doubtful whether we have ever received the money for them which we have paid out. Nevertheless, as we get a good many that live two or three years, we think it pays to keep on. As it seems rather hard to take a neighbor's (we are only three or four thousand miles apart, friend G.) money for queens, and then have them not live more than 6 weeks, we

will send you another from our next 50 that are on the way now.

SWARMS GOING TO THE WOODS.

IS UNSEALED BROOD AN ADVANTAGE OR DISADVANTAGE?

I NOTICE considerable discussion in reference to absconding, and am inclined to agree with Doolittle's conclusions. Previous to last season (1879), I never had any bees abscond, and concluded that if any bee-keeper lost swarms by having them go to the woods it was because he had neglected to comply with the rules to be observed in such cases, not having the hive in proper condition, or neglecting to shade them after hiving, or most important of all not giving them unsealed brood. These conditions I have always considered necessary, and attributed my success to my practicing them.

In June, 1879, I bought a swarm of black bees of a man living about 6 miles from my place. I brought them home the second evening after they had been hived. The next morning, when I went to give them fdn. and brood (about 10 A.M.) the hive was deserted, and the bees were in my neighbor's orchard where they had clustered, and he had hived them in an old hive. I brought them back to the bee yard and the next morning transferred them to a Simplicity hive, and gave fdn. and a frame of brood. They however left the hive and brood and clustered again. Thinking there might be something wrong with that frame and hive, I got another frame and hive, and re-hived them. They stayed till 5 o'clock when out they came again, and after hiving them again and having them come out and cluster again, I concluded perhaps they preferred an old hive without brood; so I got an old Quinby hive, and hived them in that. It was nearly dark by this time, but they all went in, and seemed all right the next day. I thought I had succeeded at last, after re-hiving them 5 times, but when I looked into the hive in a few days, I found several pieces of new comb, with eggs in the cells, and probably a dozen bees; so they gave me the slip after all.

July 4, 1881, I had a large swarm of Italians. They were hived in a new chaff hive containing 6 frames of fdn. with a frame of unsealed brood in the centre, and 2 frames of sections on the outside. They went in all right, and seemed contented until about 4 P.M., when they came out and clustered again. I hived them this time in a Simplicity hive, arranged internally as before. The next day, just after dinner, they all came out again, but instead of clustering started for the woods about ¾ of a mile away. I followed them about 50 rods into the woods, where they went into a black ash tree about 18 in. in diameter. I went home and got help, and we cut the tree, and got the bees into a hive all right. I took them home, and the next morning clipped the queen and they have behaved since.

The next swarm, also a large Italian, acted in the same way. They left the hive with brood, were re-hived, and the next day started for the woods, directly toward the wind, which blew so strong that they had to fly very low and slowly. When they reached the woods they attempted to rise up and pass over the trees, but the wind was so strong that they could not, and, after flying around awhile, they clustered on a small white maple tree. I hived them, clipped the queen, and they have been all right since.

July 11th, I hived a large swarm of Italians, in a new Simplicity hive arranged as above,—fdn. with brood in centre, and sections on the outside, and hives well shaded. They stayed in from 11 o'clock to 5 P.M., when they came out and clustered. I rehived them, and the next morning clipped the queen, as I suppose their next move would have been for the woods.

The above cases seem to prove pretty plainly that unsealed brood will *not* prevent absconding. The hives used were *new*, and in each instance well shaded. The swarms were large, still in the chaff hive there is plenty of room in the upper story, the duck not being so tight as to prevent the bees from going up, and in one instance I put an upper story on the Simplicity. Neither can we conclude that this trait is peculiar to the Italians, for the swarm that left in 1879 were black bees. It is evident also that the locality whither they are going is determined before they start, at least in some instances.

E. C. LONG.

Williamsville, Erie Co., N. Y., Aug. 2, 1880.

Your concluding remark, friend L., it seems to me, strikes at the root of the matter, and if you will read what friend Peters says, in the A B C, I think you may see wherein you were at fault. Granting that friend Doolittle be right, and that first swarms are better without a frame of brood, what are we going to do? Hundreds of swarms go to the woods every year, hived just as you hived yours, only with no frame of brood given them at all; surely you do not mean to claim that clipping the queen's wing will *prevent* their trying to leave? I have tried clipping in many cases, but the bees went out all the same; of course, they came back, but the queen seldom got back, unless I was near to hunt her up, and put her in the hive again. As the loss of the queen is about as bad as the loss of the swarm, Quinby devised his queen yard; but, if I am correct, nobody ever uses it now. See what another friend writes:

SWARMS ABSCONDING, &c.

It seems to be an acknowledged fact now, that one frame of brood will not always prevent new swarms from absconding. My experience is, that large swarms are more apt to leave than small ones. After having several swarms leave one frame of unsealed brood, I adopted the practice of giving each new swarm 3 frames, and have had no trouble with swarms coming out a second time since. I have practiced this method two years, and I would recommend that my brother and sister bee-keepers try it next season. In about 10 days, when the new swarm has become permanently domiciled in their new quarters, the frames can be returned to the hives,—one each day—from which they were taken.

Spring Lake, Mich., Aug., '80.

J. S. DEWEY.

And here is something later from friend D.:

A CARD.

I agree exactly with all you say, Mr. Editor, on page 360, Aug. GLEANINGS, about giving unsealed brood to queenless colonies and after swarms, or all stocks having an unfertile queen, but not for a swarm which was a first swarm with a laying queen. We only hive first swarms; all others are returned, so I do not see but we agree after all. But, Novice, are you not a little fast when you say, "Some of them deserted the hive and went off because they had no queen"? We presume an explanation on

your part will make this all right, as "went off" might be going into other hives; but surely such a thing as a queenless colony decamping for the woods is rather mysterious, is it not? G. M. DOOLITTLE.

Borodino, N. Y., Aug. 5, 1880.

You are right, friend D. I did not mean to intimate that queenless colonies went to the woods, as a swarm does that has a tree picked out, but, as you suggest, that they desert the hive for other hives near by. We are in the habit of purchasing new swarms to be used in making queen rearing nuclei, and as these swarms, if large, are always divided, we find it impossible to have them stay, unless they have unsealed brood given them. When they desert, of course they go with the bees where their queen is. Were it not for occupying so much space, I suppose I should be more explicit.

I would like to say to those that have had trouble with new swarms leaving their hives after giving them a card of brood, that the brood or *clean, empty combs*, is all right enough, but if the combs of brood contain honey, as they usually do, the bees will *eat the honey*, and when they have filled themselves with honey they want to fly; and when they all fly, they have swarmed, haven't they? Feeding will do the same thing, if done too soon after the bees are hived in empty hives, before they have any place to store the honey.

HENRY CLEMENTS.

Wyandotte, Wayne Co., Mich., Aug. 2, 1880.

I am inclined to think you are right, at least partly, friend C., for it is pretty well known that swarming may be produced in almost any stock, by feeding a quantity of warm honey, at the proper time of day during swarming time. I once hived a truant swarm, and, as they were nearly famished I gave them a frame of honey; and, just as soon as they could unseal and take up the honey, they swarmed out again, and I lost my bees and honey too. We have generally used a comb containing little or no honey, and often a frame of fdn. just newly drawn out, because these were so much lighter to lift out, and so much easier when one is in a big hurry, to clear of bees. Perhaps so simple a matter as this may have made the great difference in our experiences.

WE have succeeded in getting some very good, well-made TINNERS SNIPS or SHEARS, which will be found very convenient for bee-keepers, and have often been inquired for. Prices are as follows:

10-inch Snips, nicely finished.....1 75

If wanted by mail, send 15c. extra for postage.

Tinners' Snips and Wire-Cutter combined, 11 in. 2 00

If wanted by mail, send 20c. extra for postage.

BEE-VEILS FOR 25c.

DURING the dull season, after the honey months, we have plenty of time to look up new things, and this season our girls have succeeded in making a very pretty bee veil of mosquito bar, to be sold for 25c. In fact, we can send it by mail for that amount. These are very handy to give visitors, even if you do not need them yourself. The same, with a Brussels net facing, for 50c.

HOW TO RAISE PLANTS.

HOW TO RAISE SIMPSON, SPIDER, AND ANY OTHER PLANTS.

MY time is out for GLEANINGS. I thought that I would not take it for the next quarter, but I do not think that I can do without it for a while yet; so you will please find enclosed the stamps.

On the 4th of this month, I went out to my spider plants and one stalk had four spiders on it. I was much pleased to see the long legs, and, at the body, there was the drop of honey sure enough. I watched and waited to see a bee come and sip it, but, alas! none came. I have tried to get the bees to work on it, but they will not as yet. I have taken them from the hive on honey comb and carried them to the flowers, and waited until they got their load and left for the hive. Then I removed the honey, and when they returned they would fly around the flower, but would not touch the nectar. Other insects are busy sipping the honey from the blossom, but the bees will not touch it yet. I know that the honey is there, for I tasted it. Now, I would like to know how I am to get them to take hold of it.

My Simpson plant is growing nicely. It is about 3 ft. high, but has no blossoms yet. Some wild plants are in bloom, but I have not seen any bees on them yet. I know what the Simpson plant is now; it goes by the name of Holms weed, and is used here for scratches on horses. Boil the roots, and wash the horse's legs with the water in which the roots were boiled, and a few applications will cure the worst case of scratches. I see in GLEANINGS that some of the readers cannot get the seed to grow. I will say to them, if they will take a little pains in planting, that all the seed will grow. Take some rough boards and make a box as large as you want (2 ft. wide and 4 ft. long); make it 10 in. deep, and fill with any kind of earth to the depth of 6 in. Then go to the woods and find a place where there is a thick coat of leaves, scrape the leaves away, then take earth from under them, which will be a light loose dirt or mold. Fill the box full with this earth, which will not get hard. Then take your finger or a stick and make rows about 4 in. apart and one inch deep, and sow the seed as thick as you please. Then rake the dirt over the seed until the bed is smooth. Sow in March, and set your box on the south side of a board fence. Cover with some old carpet when you think there will be a freeze, and water occasionally with warm water. When the plants come up, be careful not to let the frost bite them. Do this and I assure you, you will have all the Simpson plants you want, or any other plant you wish to raise.

Vigo, Ross Co., O., July 12, '80. JOHN MOTES.

The reason the bees do not work on your few spider plants, friend M., is that there are too few of them. It wants a large lot of them together for them to get the "hang of it," if I may be allowed the expression. The place where the honey is secreted is a little difficult for them to get at, and they must first learn how. Perhaps they have found it already, but they will be much more likely to do so, where there are even a dozen or more plants. I remember taking a large branch of basswood flowers and holding it before the hives, expecting the bees would alight on it and sip the honey. Not a bee could be induced to notice it. Some of the

friends have decided that bees would not touch grapes, because they tried them under similar circumstances.—Many thanks for your hints and very plain instructions to the A B C class, in regard to raising plants. We cheerfully send you GLEANINGS one year for the same.

JUDGING OF A QUEEN'S PURITY BY HER LOOKS.

ALSO SOMETHING ABOUT HOLY-LAND QUEENS.

I KNEW that the queen was a *hybrid*, when I received her, and also Mr. Sweet said so at the time. Now, I have no *excuse* to offer you, and I think that every bee was warranted to me. But that is enough, I am done, and, if you feel as though you were all right, then it is well; but, hereafter, I shall buy where I find perfection.

J. R. GOODALE, M. D.

Pawtucket, R. I., July 26, 1880.

I have given the above to show how unreasonable some of the friends are. The writer sent us quite a lengthy letter, saying his queen was impure, and in proof of it, carried some of the bees to the editor of the *Magazine*, in N. Y., who pronounced them hybrids. After a lengthy investigation we found that he purchased the queen of us in 1878, and that it was only a *dollar* queen at that. I expostulated, and received the above card in reply. As some others have declared that they, too, could tell a hybrid queen by her looks, I wish to explain a little what you undertake to do. It is now pretty well decided that the daughters of an imported queen may be any color, from a jet black, to one almost entirely yellow. If these queens meet Italian drones, they will produce 3-banded bees, without question. If they meet common drones, they will produce hybrids. Now friend G. and his neighbor S. claim to be able to tell by the looks of a queen what kind of a drone she has met. Without question, they will give up on this, as I have explained it. But they may perhaps say they can tell by the queen's looks that she is the daughter of a hybrid queen. But we have queens, right from Italy, of all shades and colors, as every one who has imported knows. Perhaps some will say that a queen with rings on her body, is unquestionably the daughter of a hybrid queen. I agree that such is usually a pretty safe rule, but, my friends, our best Holy-Land queen has rings along her whole long body, and her "ring streaked" appearance almost always produces a loud laugh from beholders. Her young queens are exactly like her, and the boys say they can tell every Holy-Land queen in the apiary, at first glance. I expect ringed queens are going to be the rage now. To go back; shall we not exercise a broad charity, before condemning queens by their looks alone? Friend G., I should be glad to have my customers all satisfied, but should I replace a *dollar* queen for you, because she proved hybrid, and not do the same for the rest, I should be doing a positive wrong. The conditions under which they are purchased are surely well understood. I somewhat doubt your finding "perfection" in this world, in either queens or human beings.

Heads of Brain, From Different Fields.

WIRE-CLOTH SEPARATORS.

I HAVE noticed that somebody has used wire cloth with large meshes for divisions between sections, and claims it to be a success. I further notice you intend making a loom to weave them. Now, would it not be well to give the plan a pretty thorough trial before incurring the expense of a loom? This gentleman who gave it one trial undoubtedly had the honey built out quite nicely. It is a fact, too, that bees will sometimes build out comb evenly and nicely without divisions at all; but this will not work as a rule, neither will the wire cloth with large meshes. I feel confident from the experiments I have made this season. I conceived the notion that narrow strips of tin placed $\frac{3}{4}$ inch apart would be more convenient than whole pieces; and so they are. The strips are $\frac{1}{2}$ inch wide, and one would suppose this would cause them to build as evenly as a solid piece of tin; but it didn't. The little rascals bulged out the comb at every opening in the tin, giving the sections a sort of corrugated appearance, and at places they bulged it so far as to attach it to the edge of the tin strips. A neighbor tried the same plan, and the result was the same. Therefore, we have decided here that openings large enough for a bee to pass must not occur anywhere except near the edges of the section. If wire cloth is used, the meshes over the main portion of the section must be too small for a bee to pass.

Rollersville, O., July 19, 1880.

D. B. BAKER.

ANTS AND QUEENS.

You will have to put something different under "ANTS" in your next edition of A B C, if you wish to make it all right for the South. Here is my experience: I sent for an imported, \$3.00 queen from Dr. Brown, Augusta, Ga. She came all right, and, to guard against all possible danger in introducing, I followed directions in A B C, and shut up the queen and her attendants in a hive with *hatching* brood, and no other bees. A shower coming up, I did not look at them for about an hour, and then, on listening at the closed hive, I heard a great buzzing, which alarmed me. On looking in, I found the queen and about half the bees stretched out on the bottom, covered with little black ants, and in their last gasp. The other bees were buzzing around, shaking their wings, and doing the best they could to rid themselves of ants, which were clinging to them and biting constantly. You can imagine how I felt, to see my \$6.00 queen, with all her beautiful yellow progeny (unhatched, save in my imagination) vanishing so suddenly. She had survived all the perils of the Atlantic to meet an ignominious death at last, at the hands of little Alabama ants. I sent on at once for a nucleus hive with imported queen, determining not to risk any more introducing just yet. They arrived safely, and I have a fine colony of yellow-banded workers, and good prospects for queen-rearing. I searched A B C and *Cook's Manual* very thoroughly after that, to see whether I had gone contrary to instructions, but both authorities think that ants never do any particular harm. On writing to Dr. Brown, he said that in shipping bees to Florida he had found it necessary to have the express compa-

nies carry them "over water," in order to keep out ants, before he could succeed; and for that, among other reasons, he opposes clipping the queen's wing. I think you ought to put some caution in A B C.

Oh! by the way, I forgot to say that a good many of the larvæ in the frames of brood had been dug out by the ants also, in that short time. I have never detected any trouble yet in *strong colonies*, as you say in July GLEANINGS; but they might do some damage even then without its being noticed, as the bees would repair damages so fast. C. B. CURTIS.

Selma, Dallas Co., Ala., July 9, 1880.

The queens came by mail safe and sound. There were but 2 dead bees in the whole lot. There was plenty of water and sugar to last them another trip. Two of them are safely introduced and laying; the other, the ants killed. I left the cage on the safe in the kitchen, while I was introducing the other two, and the ants ate up queen, bees, and all.

Lancaster, Tex., July 19, 1880. E. J. ATCHLEY.

The same thing has been noticed in GLEANINGS before, and I have this minute put it into the A B C. Thanks, friends C. and A.

MATS FOR COVERING THE FRAMES.

I have made some wooden mats for covering frames, having the slats run across the tops of the frames, and I like them much better than those in which the slats run the same as the frames.

D. S. OILER.

Shamburg, Venango Co., Pa., Aug. 9, 1880.

The principal reason why I wished them to run lengthwise with the frames, friend O., was that we might be able to fold them up, so as to accommodate nicely a few frames, as well as a whole hive full. I know running them the way you suggest has its advantages. I have discarded them in our apiary in favor of the enameled sheets, because we open the hives so often, in queen rearing. Where hives are used for honey instead of queens, very likely the mats will answer very well. When they get covered with wax, they are very apt to kill bees, unless considerable time is taken to replace them. Those who prefer a porous covering for winter will likely prefer the mats, but I am satisfied the enameled cloth sheet is perfectly safe for chaff hives, and others similarly protected.

THE A B C TEST OF ITALIANS.

On your postal of Aug. 3d, you ask if I judged my queens as per test given in A B C. On page 121, we read, "Others, among whom was our friend Quinby, admit that a *part* of the bees would show it only," etc. Now, Mr. Root, if the above quotation means that a part of the workers from the same queen show the 3d band only when filled with honey, while the balance have a broad yellow band plainly to be seen on a hungry bee, I do not judge my queens by that test, because, somehow, I have got it into my head that the worker progeny from a pure Italian queen ought to be marked alike. The last tested queen received of you produces workers a part, perhaps the most, of which have the three yellow bands plainly to be seen, while the others have but two that can be seen without the test of feeding, which I have not tried.

CHAS. C. MILLER.

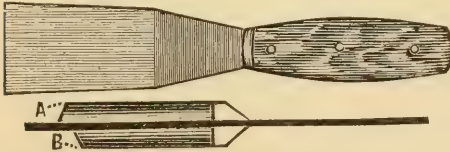
Akron, O., Aug. 7, 1880.

Friend M., you are certainly demanding something of a tested queen, that our im-

ported queens right from Italy do not furnish, and which would be only accidental and of no moment if they did. If this third horny scale is the greater portion of it yellow, I think we should be satisfied, even if we have to feed the bee to enable us to get a view of it. I think the A B C makes it all very plain, if read carefully.

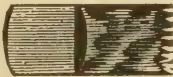
HANDY IMPLEMENTS FOR THE APIARY.

I have been using a putty knife in my apiary for the last 3 seasons, and could not do without it conveniently now. I use the broad end to scrape off the bits of comb and propolis, and the other end as a "crowbar" to raise the covers of hives, to pry the all-wood frames loose, and numerous other purposes. This is the shape of the edge of my knife.

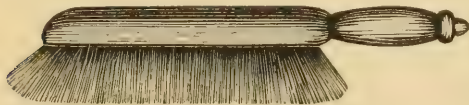


PUTTY KNIFE FOR WORKING AMONG HIVES AND COMBS.

A and B are the fulcrums when used as a lever. It cost 15c, I think, and I sawed the parts off the wood handle at A and B, and sharpened the end like a cold chisel, taking the corners off somewhat in this shape:



I have another useful article that I cannot well do without,—a bristle counter brush. It is a wooden paddle with bristles in one side, and cost about 40c.



BRUSH FOR BRUSHING BEES OFF THE COMBS.

I use it to brush the bees from a comb when I wish every one of them off and cannot shake them off, and to take swarms from the body of a tree, or from a limb that I do not wish to cut. It is much handier than a bunch of weeds or grass, and is always ready in my tool box.

Yours in somewhat of a hurry,—

JAMES A. NELSON.

Wyandott, Kansas, May 19, 1880.

Thanks, friend N. I wish you would write us again sometime when you are in a hurry, if you always have such good suggestions to make. We have obtained some beautifully finished putty knives which will be found in the counter store, but have not as yet found a brush that pleases us so well as the ones we pictured last month.

QUEEN CELLS CLOSE TOGETHER AND HOW TO REPAIR THOSE CUT INTO.

I wish to tell you how I work with queen cells. I cut them out and take them into the honey house, and there separate them, and sometimes I cut into one. I light a candle, and have a small pointed knife that I heat in the blaze of the candle, and take a bit of brown comb, which I squeeze between my thumb and finger, until it is a little larger than the hole in the cell, and the knife being warmed so that

it will melt the wax, it is spread over the hole, being careful to leave no air hole by which the bees can get at the jelly. If your work is done well, they will respect it, and the queen will hatch just the same as if it had not been disturbed. When cells are scarce you will find it a saving of many cells.

JOSEPH HARRIS.

Moundsville, W. Va., Aug. 2, 1880.

Many thanks, friend H. I have done the same thing, by warming the wax in my fingers and in the sun, but the bees would sometimes tear the patch off again. Your plan, without doubt, will make them as good as new. I once took a queen out of her cell, carried her around and showed her as a curious piece of white wax work, put her back in the cell, and she hatched out in due time, as perfect as if she had never been disturbed.

INTRODUCING WITH SWEETENED WATER.

The queen is introduced and laying. She was the first queen I ever introduced, and I tell you I had a mess of it. I caged her on the top of the frames for 48 hours according to directions, and then released her. They seemed to be friendly to her, so I closed the hive, and in about 20 minutes I opened the hive, and found her in a ball of bees. I caged her again, and in about 24 hours released her again. No sooner was she out of the cage than they had her again, so I lit in on them with a quart of sweetened water, and gave the queen and bees a good sprinkling, and they haven't bothered her since.

ELIAS BERG.

Cicero, Ind., July 30, 1880.

A good feed, if you can manage it without enticing robbers, will often make the bees much better natured and induce them to forget about balling the queen, but it is not always a success as it was in your case.

THE CHEIROGRAPH, AND HOW TO USE IT.

"Your samples of cheirograph work are at hand, and, I must say are 'splendid.' Tell us how it was made, both the pad and the ink, if you will? Was it after the receipt in GLEANINGS?"

The above is what I received, written upon a postal, after sending friend Root some copies of my circular and price list, printed in colors upon the cheirograph. The pad, and the purple, or violet, ink are the ones advertised upon the 75c counter. The red ink, I made myself, from the following recipe: Dissolve one ounce of aniline in seven fluid ounces of hot water; on cooling, add one ounce of alcohol with one-fourth ounce glycerine, and a few drops of carbolic acid.

Now then, I will tell you why my work looks as well as it does; it is *printed* with a pen, not *written*. The "up strokes" in writing are light and do not receive much ink; consequently, after taking a few copies, the "up strokes take light," which gives the writing a dim appearance; while, in printing with a pen, every stroke is a "down stroke," giving a generous supply of ink, which produces a clear, bold copy. Don't say you can't print; if you don't remember just how all of the letters are made, get a spelling book and look at them, and then try it, and you will be surprised to see how soon you will be turning off quite fair printing.

After your writing, or printing, is nearly finished, and you have taken a great deal of pains with it, perhaps you make a mistake. Don't try to scratch it out, as you will make a blurred, and bad looking spot in your writing; but just cut out the word in which the mistake occurred, lay a clean sheet of paper *under* your copy, and then write the word, *through the hole in your copy*, upon

the sheet of paper placed underneath. You can now cut out the word and fit it into the hole in your copy, keeping it in place by pasting a small piece of paper upon the back of your copy. A piece of the border that is around a sheet of postage stamps is a good thing to stick on the back.

W. Z. HUTCHINSON.

Rogersville, Mich., Aug. 18, 1880.

WORKER BEES IN PARTNERSHIP.

I keep Italian bees, which are in good condition, but have noticed lately that, frequently, two bees take wing, and fly off together in much the same way they carry out dead or imperfect bees. I thought they might be taking out disabled bees, so I caught some of them, and found both bees of each pair perfect. They are constantly flying in this manner, at intervals of a few moments, from my strongest hives, and I cannot understand why. Can you explain this singular action? E. GREENAWAY.

Howell, Mich., July 16, 1880.

I can only think of two reasons for the phenomenon mentioned, friend G. The first and most probable is that one of the bees is deficient in some way, even though you could not detect it. I often see bees pick up others even from the combs, and try to drag them out and fly away with them, and, after making them desist, I can usually see something in the motions indicating feebleness or injury. The other reason is that the bees are accidentally attached by the well known milkweed pollen, or some other similar substance obtained from the flowers they visit.

EARLY AMBER SUGAR CANE; HONEY FROM COTTON, ETC.

I have just finished making my amber canesyrup; or, at least, finished my earliest planting 10 days ago. We find no special difference, so far, in the syrup made from the amber and that made from other cane. I have not made any sugar. We have been very dry here, having had only one good rain in 9 weeks. My amber made me 50 gallons per acre, on old and worn land. I had 7 colonies of bees to start with, and now have 21, all with 10 combs worked out, and in good condition. They have been doing well this year on cotton. I hope to have a good fall for honey. J. D. FOOSHE.

Greenwood, Abbeville Co., S. C., Aug. 12, 1880.

If you have made a fair quality of syrup, your sugar will be found in the bottom of the receptacles, without further trouble, friend F., although it will need some refining, perhaps, before you have a *nice* article.—Many reports have established beyond question the fact, that bees do get honey from cotton.

PENNYROYAL AS A BEE PLANT.

Early in the morning, on the 10th of August, as I was going by our apiary, I cast my eyes in to see what our pets were doing, and I beheld them tumbling around on the alighting boards as if they were drunk or crazy. Our alighting boards are 10x18 in., extending from the ground up to the entrance, and yet they came pouring in so heavily laden with honey, that some of them would miss the board, and others would light on it, roll clear off, and crawl up. I think they were fully one-third longer than usual. The blacks looked as if they were trying to be Italians. We wondered from whence it came, for they had not gathered much honey for a month. We

thought it might be from corn, and so I made a visit to our corn field, but only saw three bees, and they were gathering pollen. This did not satisfy me, for I was confident the outburst of honey did not proceed from that. So I traveled homeward; and as I was coming along I entered an enormous pennyroyal patch, and behold! it was humming with bees. This satisfied me from whence the honey came. I can't say how long it will last, or whether it yields honey every season or not, but I know it grows here in abundance, and the bees are gathering honey from it now. L. A. & J. F. RUNNION.

Spencer, Roane Co., W. Va., Aug., 1880.

The idea is not exactly new, friend R., and it has been suggested that the honey has a fine aromatic flavor, not unlike the celebrated mountain sage of California. If you get enough of it to taste, I should much like to see a sample.

REPORT FROM AN A B C SCHOLAR.

In May, 1879, I bought one swarm of Italians. From them, I got 1 swarm and 60 lbs. of surplus honey. May, 1880, I bought one more swarm of Italians. From the two I wintered over and the one I bought this spring, I got 7 more good swarms, and 1 good, strong nucleus. This year I only got 50 lbs. of surplus honey, as I worked my bees for increase.

FRANK M. GLIDDEN.

Panama, N. Y., Aug. 11, 1880.

SWARMING OUT MANIA.

I have lost four swarms lately. Can you give in GLEANINGS the cause? 1st. A swarm came out leaving about a half pint of bees, plenty of eggs and sealed worker brood, no queen cells, and honey plenty in each comb. 2nd. As soon as I had hatched a few queens I gave to the $\frac{1}{2}$ pint of bees that were left a young Italian mother. After she had laid awhile, she left with the entire lot, leaving eggs, larvæ, a little honey, but not a worker two days old. 3d. One has just absconded, leaving eggs and larvæ, and a very little honey. I had been raising queens in this hive for six weeks, with very little success. 4th. This was just like No. 1. If I am to continue losing in this way, I do not see what I am to do. I caught No. 4, and put them into a new hive, giving them eggs and larvæ; about 8 o'clock they came out again, and I let them go. I can find nothing in any bee book I have read, to suit these cases. R. K. WALKER.

Darien, Ga., July 31, 1880.

Your case is one rather rare, but still sometimes found. It is a sort of absconding mania that your bees seem to have caught. They will soon get over it, and probably never take it up again. It is mentioned in A B C. It is usually because the stocks are rather weak.

Friend Root:—How I would like to be in your apiary. Perhaps I could show you that I had handled bees before. I like it; it is fun for me, although I am an old man of 68. Not long ago, I had divided a swarm, and, a few days afterwards, I went one cloudy day to see which division had the old queen. Being in a hurry, I put a bee hat on, and, in the operation, the veil got loose, and about a hundred bees got under. Then I had fun. I threw the hat away after that. ROBERT TAYLOR.

Lawrence, Kan., July 20, 1880.

PATENT HIVE MEN: HOW TO TREAT THEM, ETC.

A patent hive man came along, and took a peep at my two, nice Simplicities. He was evidently "hacked." He did not offer to sell me any of his hives. He rested a few moments in my library, and while there, I showed him my A B C, and also my nice, new, Simplicity smoker which you had just sent me. He *must have* both, so I sold him my book and smoker for the same that I can procure them for from you; for who can do without them? This man did not know that bees could rear a queen from brood. He said he had sold a great many hives, and transferred a great many swarms. He knew of several *queenless* colonies among his patrons, but *did not know the remedy*. What do you think of that? I say let every man stick to his calling; and, if he embarks in a new one, let him at least try to understand something about it before he begins to take money from his fellow men. I can forgive this man however, for he told me he would read A B C, and, if he does, you may be sure he will come out all right.

Bees are doing well in our county. We have a great deal of the horsemint (*Monarda Punctata*) here. It begins to bloom in April and lasts until the middle of July. It yields large quantities of honey of excellent quality. J. E. LAY, M. D.

Hallettsville, Texas, July 12, 1880.

THE GIVEN DIES.

The dies that I spoke of as mine, were, of course, made by Mr. Given, and belonged to my mill which I bought of him. Why, bless you, I have got two of these presses, and I consider them staple goods. I wish I had 1,000 of them, for the Given press has no competitor as a *fdn*, maker in wired frames, and I consider it superior as a surplus *fdn*. maker.

Dowagiac, Mich., Aug. 11, 1880. JAMES HEDDON.

BEES THAT WON'T WORK.

All my bees are doing well except one colony. They not only have not done anything, but are not disposed to do anything. It is a large colony of the lightest colored native bees we have ever seen. Several persons have mistaken them for dark Italians or hybrids. What shall we do with them?

SOURWOOD.

Its true name is "Sauer Wood", and it is a crooked, gnarly, ugly growing, shrub undergrowth, common to the woods of Va., from the Blue Ridge to the Sea. It is unfit even to burn, unless cut in August and thoroughly seasoned. It bears large bunches of cup-shaped, white flowers, both bunches and cups hanging downwards. The nectar or honey in the cups is a clear, watery, white liquid, very sweet and very thin. It is to us what the basswood is to you. No one of them that I ever saw attained the height of 60 or 70 feet; in fact, it is very rare to see one thirty feet high, or as large as a man's body. They put up a number of long, red, spine sprouts, or suckers, from which the boys make whistles in the spring, the bark slipping from the wood very easily. I do not know how they are propagated. We have also a very rare tree, bearing thorns and a long, pod fruit, filled with flat, bean like, brown seeds, and a creamy honey-paste between the seeds. The pods are an inch and a half to two inches wide. This is resorted to by bees when in blossom. It can be raised from seed. L. M. SHUMAKER.

North Danville, Va., Aug. 2, 1880.

I think you can make those lazy bees work, friend S., by dividing the colony, and

putting a young, fertile queen on the old stand. If they won't work then, the new bees that hatch out certainly will. When bees get too lazy to fly off for stores, they will always (so far as I know) take care of brood, if you divide them, so that all hands are required to do the necessary work of the hive.

CARTOONS, ETC.

What have you done with friend Merrybanks? Has he "gone where the woodbine twineth"? or has he gone to farming? I think the friends that thought Our Cartoon silly, would think *me* more than foolish. About one year ago, I had some old bee comb and wax to melt up. So I put it in a large dish pan, set it on the stove and told the boys to fire up; and they did fire up too (as I was sick); for just as I had got to sleep, they called, "Pa! Pa! the beeswax!" Now I had been thinking what nice comb *fdn*. I would have, but, lo and behold! my wax was boiling over on the stove, and a blue flame was reaching the ceiling. My first thought was to throw water on it, but that made it spit and fry the more, so there was no other chance but to lay hold with my hands. I started to the door, but it was more than I could stand, so down it went on the floor. I was in my stocking feet. * * * * * I went on crutches for six weeks after, and suffered much. I will not say what my wife said when she saw the wax on her clean floor, and me getting around over the floor "like a monkey in hot ashes." I never melted any more wax, and never will till I get enough to pay for a wax extractor. I believe, if I had seen your cartoon in Dec. No., 1879, I would not have been so foolish. Please give us a cartoon each month. Those that do not wish to read them, can do as you tell them to do about Our Homes. G. W. STITES.

Spring Station, Ind., Aug. 9, '80.

TOWNSEND'S PLAN OF GETTING QUEEN CELLS.

I tried Mr. Townsend's plan of obtaining queen cells, as explained in the July No. of GLEANINGS, and was successful the first time, but the next two times the bees tore the strips of comb all to pieces, and I did not get a cell.

HONEY PAILS.

I want to growl a little, Mr. Root. Out of the 100 pint pails that I got of you, 68 leaked. Some of the two quart pails leaked, but not near as large a proportion. I shall try to solder the leaky ones myself. You will have to look after your tinner.

CHEIROGRAPHS FOR HOT WEATHER.

The directions in the Jan. No. for making the cheirograph may answer for cold weather, but my experience teaches me that nearly double the quantity of glue will be required in warm weather, to make a firm pad. J. S. DEWEY.

Spring Lake, Mich., Aug., 1880.

Many thanks for reporting about the honey pails, friend D. We did not make them; in fact, we could not do it at the price they were offered in N. Y. I was very anxious to have them so they could be put on the 5c. counter, and they offered them at \$6.00 per gross. This would be a little over 4c. each. I ordered a half gross, and they did not leak. I next ordered two gross, so as to save freight. Those I sold you cost me \$4.58 per hundred. The profit on them hardly pays for crating and handling, to say nothing of trying each one, to see if it would leak. If

you will be so kind as to solder them, and thus save me from loss, friend D., I shall regard it as quite a favor. The pails hold a little over a pint, and perhaps this fact may pay for the soldering. Now I will tell you what we are going to do. We are going to make pint pails with covers for 5c. each, and we are going to make those that won't leak either, if it costs—well, say considerable machinery, and smart brain work too. We can make them up in the fall, when we have plenty of time.—You are right about the cheirograph. Much more glue is required in warm weather. Friend Hutchinson's price list made on a cheirograph is perhaps as fine a specimen of the work as any we have seen.

CANDY AND ITS EFFECT IN SETTING BEES TO WORK.

A B C is invaluable; yet, before it came I had made candy,—5 lbs. of sugar (grains from sawing cut loaf) 1 lb. of flour, and a quart of water; after it had boiled awhile and all the skum had been taken off, I poured it into frames made smaller by a division strip half way from the top, and when it got cold I put it into two hives. The effect was wonderful; the colony of sluggards on the next morning were at the entrance by light, and although a drizzling rain was falling they were on the fly. About 10 o'clock the sun came out warm and balmy, and they literally poured out of the hive, so that in two hours, I am sure, two thirds of them were out. About noon, they commenced their return, and 2 out of 5 had pollen on their legs. I thought their flight was for water, but their industry since shows that the feed started them to work. I gave half a frame to the little colony you sent me, to which I had already given a comb of brood and the thousand or two bees on it, and the effect of the candy upon those has been excellent; they are twice as industrious, and it is pleasant to see the bright gold-braided aristocrats working side by side from the same door with the humble black bee. Yet a dozen or so of the golden banded ones became disgusted, and went straightway to the hive from which the brood frame came, and are now domiciled with them. Every good day they are to be seen playing guards or workers.

MOTH WORMS, HOW THE ITALIANS SERVE THEM.

Yesterday morning I found on each of the broad boards placed between the alighting board and the grass in the yard a moth or web worm. Both were alive, and had evidently just been ejected from the two Italian hives. I could find no evidences of them inside.

BUYING BEES(?) AND SUMAC AS A HONEY PLANT.

A little lame negro boy came to me in breathless haste the other morning, as I was crossing over into Danville, saying,—

"Mr. Shumaker, done—done yer want ter buy some more bees?"

"Oh yes;" I replied.

"Well," he says, "I dun found a great heap on um, and I'll take fifty cents fur um all."

So I started with him, and, after a walk of a quarter of a mile, he showed me, in a hollow, a very large sumac tree (not a mere bush) in full bloom, and covered with the bees. Of course, I laughed and told him he could not sell bees in that way; and, besides that, those bees belonged to other people, and no doubt some of mine were there.

HORSE MINT.

He was disappointed, but the walk was profitable to me, for in passing through the old field (common), I saw a number of the gold-banded workers on a plant with a little blue flower. It grows in bunches, and sends out long spines which are filled with diminutive tulip shaped blue flowers. I took two of the spines to Mr. Hickock, and Mrs. H. pronounced it wild, or horse, mint. The entire common was covered with it, and I saw bees everywhere; so there must be some honey in it.

To-day I am making A B C candy for all our bees, except two strong colonies that seem to have honey enough and to spare. We shall keep all our surplus for our bees, which we shall remove to a small beehouse, as a protection from both the weather and the thieves. Bees never freeze here, and seldom starve except where they have been wickedly robbed late in the fall. L. M. SHUMAKER.

North Danville, Va., Aug. 9, 1880.

I received my selected queen and pound of bees 3 days after they were shipped, although they were at the express office the night of the same day they were shipped. There was plenty of candy and water in the cage. I let the queen and bees out on one frame of honey, two of hatching brood, and one of fdn. The queen is a beauty and is laying, but she has laid as high as 4 eggs in a cell, with 3, 2, and 1 in others. Why does she do so?

I commenced the season with 6 colonies in L. hives, ran 3 for comb honey, got 25 lbs. per colony, and increased to 12 by artificial swarming. White clover affords a tolerably fair crop of blossoms, but has very little honey. Basswood was passed almost before we knew it was here. We expect honey enough from fall flowers and buckwheat for winter stores.

BUILDING UP WEAK STOCKS.

Will small swarms having now 4 or 5 frames, build up strong enough for winter, without surplus combs or foundation, if they are fed?

QUEENLESS STOCKS CROSSER THAN OTHERS.

Why are queenless colonies crosser than colonies with laying queens? Mine, at least, have been so this season.

FDN. CURLING UP AT THE LOWER EDGES.

Why do sheets of fdn., L. size, warp and kink at the bottom? I fasten full sheets by placing the frame bottom bar up, and wetting a chisel with my tongue, and placing the fdn. $\frac{1}{8}$ in. past the centre of the underside of top bar, then smashing the fdn. the width of the chisel at a time, until the entire length is so fastened. I have had no trouble with sagging or breaking down, but the sheets will warp or kink at the bottom. What is the matter with the cartoons, that they do not appear any more? give us one occasionally anyhow. J. H. EBY.

North Robinson, Crawford Co., O., Aug. 9, 1880.

Where a good queen lays two or more eggs in a cell, we generally find it is because she has not cells enough, or has not bees enough to care for more cells. If she does not do better with a wider field, let us know.—Four or five combs is enough to winter almost any colony, and often better than a large number, providing they are well filled and bulged out with stores.—Queenless colonies are almost always crosser than others having laying queens. You have just reminded me, friend E., that this is a point I have overlooked in the A B C, and I have this mo-

ment added it. One reason why a queenless colony is crosser is because they usually almost stop gathering honey. When I open a hive and see white, new combs, or the cells newly lengthened with white tops near a particular spot, I know pretty well that there is brood under this white, thrifty looking point, and that the new stores will make them feel so good natured, that I can open the hive without smoke. In the hive next in order, if I find no such indication of thriftiness, I always hesitate about trying to handle them without smoke, for I will be pretty sure to find that they have not a laying queen.—Your sheets of fdn. curl, friend E., because the bees work out one side faster than the other. If you hang the sheet in the midst of a very populous colony, they will be pretty sure to build it out, hanging straight down.—When I was advised to stop the cartoons, I rather expected the majority would be found to prefer them, and that their influence had, on the whole, been salutary in calling attention pointedly, to certain errors that we are all likely to make. The number of inquiries for them seems to indicate as much, and I think we shall have to consider our friend Merrybanks recalled to office again by acclamation of the majority.

GOOD REPORT FROM BUCKWHEAT.

I would just as soon think of running my apiary without queens as without GLEANINGS, because I have learned from it just about all I know about bees. Of course, I have learned by experience at the same time, yet the journal is certainly invaluable to me. My bees have had a perfect swarming fever since buckwheat came out. I have put back swarms, and cut out queen cells, until I am almost disgusted with them. One colony swarmed twice in 8 days, and had 12 queen cells, each time; the last time they were not all sealed up. From one swarm I took out 18 queen cells.

FERTILE WORKERS, AND HOW TO GET RID OF THEM.

Now, friend Root, I am just going to scold a little. You say, on p. 369, Aug. No., that it is a disgrace to have a fertile worker. Are you not rather hard on us beginners? I think you are. I have just had my first one. I had no trouble in getting rid of her. I shook the bees off from the frames in front of the hive, and as they crawled in let a laying queen go in with them, and they accepted her all right.

My wife has got the smoker filled and lighted, and is waiting for me to go out and find 2 queens that I want to replace with new ones. M. D. YORK.

Millington, Tuscola Co., Mich., Aug. 11, 1880.

If your wife is good enough to help you hunt the queens, and, especially, to light the smoker while you write letters to the bee journals, you should by no means keep her waiting, friend Y. When I come to see you, I hope to find you two working together in just that happy way. If I should never come, remember I am thinking of you, and asking God to bless you, and all the other husbands and wives who keep bees. Your plan of getting rid of a fertile worker is perhaps as good a one as you can have, if they will accept a fertile queen. I cured two, and made them valuable stocks, by just letting a laying queen into each, right on top of the frames; but, when I tried a third one, and she was an imported queen right from

Italy, I lost her. She was received all right at once, and was walking over the combs next morning, but, when it was time for her to be laying, I found 2 eggs in a cell, and eggs right on top of pollen, which is almost a sure indication of a fertile worker, and, alas! my nice, yellow, \$6.00 imported queen was never seen more. Now I have confessed to having 3 fertile workers in our own apiary, but I am ashamed to own it, and I still think it a disgrace. If unsealed brood had been kept in the hives, it could never have happened.

COTTON HULLS VERSUS CHAFF FOR CHAFF HIVES.

I write to make a suggestion which I believe will be of great value to northern bee-keepers. Cotton-seed hulls, two inches thick around a hive, will absolutely and certainly keep the bees from freezing, with the mercury at 40° below zero. In ordinary winters, such as you have in Ohio, one inch thick would be sufficient. Cotton-seed hulls are used in this section as a covering for steam surfaces. The steam dummies in use on some of our city railroads are covered with two inches of hulls. They carry a heat of over 300°, yet the outside is only a degree or two above the atmosphere. Thus you see their value as a non-conductor. They are to be had at the cotton-seed oil-factories, and the price here is \$5.00 per ton. There is a factory at Memphis, and one at Grand Crossing, near Chicago, and also at many other points. These hulls contain the solid, hard covering of the cotton seed, and 5 per cent of the crop of cotton, which the gins can not remove. They are very light, and I think 5 lbs. would be plenty to cover a hive. If I am not in an error regarding the expenses and losses of wintering bees, the general use of cotton-seed hulls as a protection would save many thousand dollars worth of bees. You are so earnestly working to build up the bee business, I hope you will test this matter this coming winter, when you will find my suggestion of value.

AMOS S. COLLINS.

New Orleans, La., Aug. 4, 1880.

Thanks, friend C. I shall be glad to make the experiment of packing several chaff hives with them, if some friend will send me about 50 lbs. or so, by freight. It is without doubt, an excellent non-conductor, but will it absorb moisture as chaff does, and still not rot or get moldy?

MOTH WORMS IN THE BROOD COMBS.

The millers are very bad here this summer among the bees. We find them among the Italians, working inside the brood comb. We have both blacks and Italians. Do you find the same? E. W. LOWE.

Sebewa, Ionia Co., Mich., Aug. 15, 1880.

From your description, friend L., I am inclined to think you have been using combs in which the moth laid eggs before they were placed in the hive. Such combs will often produce moth worms in great numbers, and even Italians seem, for the time being, unable to cope with them; but this lasts but a little time, as they soon hatch out, and then the trouble is at an end. In such cases a little assistance in picking the worms out of the sealed brood with the point of a knife, or some sharp instrument, will be of considerable avail. A single worm plowing his galleries through sealed brood will destroy a great number of bees. The path of the

worm is easily seen, by a whitish line, just under the caps of the solid sealed brood. Moth worms are almost unknown in our apiary, unless in combs that have been exposed before they were given to the bees, as mentioned above.

QUEENS THAT DO NOT LAY WHEN OF THE PROPER AGE.

I had a young queen hatched about the first of July, and when I thought it time for her to be laying I looked into the hive. She was not laying. I waited about three weeks from the time she was hatched, and still she did not lay. She was an Italian and was small but seemed to be perfect otherwise. I took her out and put in the one you sent me. Can you tell whether she would have laid if she had been left in the hive? or do queens sometimes fail to lay at all? C. A. JOHNSTON.

Somerset, Pulaski Co., Ky., Aug. 2, 1880.

It is not very rare to find queens that never lay at all, as you will see by the A B C. We usually toss them up at two weeks old, to see if they fly easily. There is no danger in doing this, for, if they can fly, they have been out and in many times, and will go in readily as soon as they swing round a little. If they cannot fly readily, they might as well be lost as not. Although they sometimes begin to lay and make good queens after 3 weeks old, we usually think best to remove them unless we find eggs after the 20th day. If we are short of room, we sometimes remove them sooner. Queens that do not lay until so late a period are always pretty liable to prove drone layers.

HONEY; PROFIT ON IN SELLING.

Bees have done very poorly until now, when they are at work on buckwheat. Why should the grocer have 5c. per lb. for selling our honey, and, at the same time, sell berries that are perishable for 2c. per quart? R. B. PARKER.

La Fayette, Ind., Aug. 4, 1880.

The berries are sure sale, or almost sure. They are quickly and easily handled, and out of the way. Honey is sticky and dauby, or almost always so. Very often the packages are so large that the dealer is asked to divide them, and the remnant frequently is unsightly and remains on his hands. Berries are often bought at 8c., and sold for 10. If he buys comb honey at 20, and sells it for 25, he makes exactly the same per cent on the money invested. I have put it 20, because a neighbor has just taken his honey to Cleveland, and obtained 20c. at wholesale for his whole crop, that was put up in the 1 lb. sections. If you cannot get dealers to handle your honey for a profit of 20 per cent, and take pains to push sales too, I think it must be the fault of the way in which you put it up.

INTRODUCING QUEENS BY W. L. KING'S PLAN.

As soon as the queen comes, I go to the hive I wish to introduce her to, and take out the old queen. Now we will suppose our swarm to be queenless. Hold on; that won't do. There is to be no supposing any thing about it. We must know our swarm is queenless. We can tell this, first, by queen cells; and, secondly, by the actions of the bees. If you have just taken the old queen out, close the hive, and, if there is no other queen in the hive, they will very soon be running all over and through the hive hunting the queen. Now is the time when they will

accept the queen if rightly introduced. Take an empty hive, place it near the old one, take out a card of brood, brush off every bee, being careful that none are hid in the corners, hang this in the centre of the hive, and then do the same with two more cards. Now place your queen and accompanying bees on these combs, close your hive, and, if you are not in a great hurry, wait one hour. This will give the queen and bees time to become thoroughly scented by the comb. Now take out the balance of the combs, brush the bees off in front of the new hive, and drive them in with a little smoke. Hang the combs in the hive, close it, shake the rest of the bees out of the old hive in front of the new one, drive them in, set the new hive on the old stand, and you are done. I have never lost a queen, or had one balled, when I introduced in this way. I am of the opinion that the best time to introduce a queen is when the bees first discover that their queen is gone, and are running wild to find her. I have twice, this summer, taken a queen out of a hive and, just as soon as I could walk twelve feet, dropped her into a swarm that I had taken a queen from not twenty minutes before. They were hunting all over for the queen. Of course, I would not dare do this with a six-dollar queen.

SEPARATORS OF STRIPS OF WOOD.

For separators, instead of wire take veneering 1-16 of an inch thick, cut it into strips $\frac{1}{2}$ inch wide, tack the strips on frames with fine tacks, about 3-16 of an inch apart. I have been trying it, and I think it will more than pay, as the bees fill the sections much quicker than when the separators are whole.

WM. L. KING.

Benton Harbor, Mich., July 10, 1880.

I know from experience, friend K., that shaking the bees off their combs and letting them run into an empty hive will often cure them of balling a queen, but for all that, I think your success is more owing to accident, than because it has any great advantage over the usual and less troublesome way. When you say you have put queens right into hives without any introduction, I think you strike at the root of the matter. A few days ago, as an experiment, I let 7, dollar queens run in at the entrances of 7 queenless hives. All but two of them were received and are now doing all right. Among the 5 that accepted these queens was a black colony whose queen had been sold that same day. They paid no attention to her at all, and she went right to laying. Had I adopted some roundabout process, I might have claimed a great discovery.

HONEY DEW.

I have read with a good deal of interest, the articles on honey dew, in GLEANINGS, and now mention a fact which has come under my own observation. We have an orange tree, as it is called, though only about 3 feet high. It is kept in the sitting room in the winter. About the middle of last winter, the children called my attention to the fact that the leaves were covered with a sweet substance. It looked as if very sweet water had dried in drops on the leaves, shining as if varnished. Putting the tongue to it dissolved it, and the taste was that of syrup. It continued about 2 days, and then disappeared. If this was honey dew, I saw no insects to produce it.

J. H. BUCHANAN.

Huntsville, Logan Co., O., Aug. 4, 1880.

TRANSFERRING SUCCESSFULLY THE FIRST TIME TRYING.

I have been taught many things in GLEANINGS and A B C, and, practicing from some of the teachings, I successfully transferred to-day a large swarm from a common box hive into the chaff hive I got of you, and did not get a sting, although I never saw the operation before. I filled 8 of the frames with combs in one piece, and gave two frames of brood and comb to the 2 frame nucleus of Italians to keep them along.

FRAMES OF CANDY.

I have twice given frames of candy to bees, and, each time, the bees ate the top away and it fell in a mass at the bottom. How do you manage about that?

PUTTING ON THE COUNTY.

I was amused when I went to address my letter to you on a previous occasion, having just been reading your explicit directions about putting the county on; I had to get my post-office book out, to find your county.

FRANK J. BELL.

Moosehead P. O., Luzerne Co., Pa., Aug. 7, 1880.

I beg pardon, friend B., but just as the last page of GLEANINGS was in the press last month, some of my frames of maple sugar began to fall down, and I regretted much that I had not directed that the sugar should be poured into *wired* frames. After doing this all troubles were at an end.—As Medina is a county seat, the county is also Medina, but, for all that, you would have found the county on all our postals for the last year, and on most of the bill and letter heads. Since you have mentioned it, and that we may make a start in the right direction, we have decided to put it on GLEANINGS and our catalogue.

WHAT CAN BE DONE WITH A POUND OF BEES AND QUEEN AFTER MAY 24TH.

The pound of bees you sent me, with tested queen, came to hand in due time. I was somewhat disappointed when I first received them, as the comb was broken down at the top, and lopped over to one side, and few bees were to be seen; but I thought I would make the best I could of it, so I got a frame of brood from another hive. I then opened them, took out the comb, fastened it in the frame, put the 2 frames into a Langstroth hive, and put in 3 frames of comb, making 5 frames all told. I then put the bees in with the combs and shut the hive, and let them go to work; and work they did. They filled the 5 frames with brood as soon as the young bees began to come from the cells. I put in 5 more frames, and left them until they were full of bees, then divided them, and now I have 2 swarms from them. That queen was a great layer.

DAVID P. GIBSON.

Healdville, Rutland Co., Vt., Aug. 3, 1880.

FRIEND BUCHANAN'S APIARY.

I am going to start a 25 colony apiary on the hills, 2 miles from my valley apiary, and will get 25, dollar queens to run the ranch, buying one or two from each breeder, for novelty's sake. If you had a picture of my home and apiary, you would say it is away ahead of all of them for neatness, style, and arrangement for convenience. I bought 18 acres one mile from the Ohio river, in this valley, and have everything new on it, from a fine house down to my honey-house. Every fence and building is

well painted, and all bee hives painted different colors, which, from their elevated position from the public road and railroad, show most beautifully. I think I have the best improved and neatest beehive in this country, and don't owe any one a copper either; but, with all this fine fix and the best and most timely attention to the bees, this has been by far the poorest season in this locality for many years. Our market, Steubenville, just across the river from us, has not seen 25 lbs. of honey this season, and will not unless it is sent here from a distance. You can put us all in your Blasted Hopes for 1880. Still we enthusiasts will feed up, and keep on till the laugh gets shifted to the other side of the face. There is not one colony in 50 that will winter unless fed. Many are now starving. It's a bad job for us, that we did not get, last fall, a big, long-tongued, red-clover queen for each colony, isn't it?

JOHN A. BUCHANAN.

Holiday's Cove, W. Va., Aug. 12, 1880.

If not too much trouble, send us a photo, friend B., and we will try to let them *all* see your apiary.

INTRODUCING QUEENS BY FREQUENTLY SMOKING THE BEES.

I send you some of my experience with red clover and other queens. I received the red-clover queen in good condition, and introduced her by letting her loose on a frame of brood and black bees (I purchased 6 colonies last spring) in an upper story, L. hive, with wire cloth top and bottom, top being hinged, and set this extra top on the one I took a frame from, so as to keep them warm. I put her in, in the morning, and every 20 or 30 minutes, for six or eight times, while extracting, I gave them a good smoking, and left them. The next day I carefully lifted up the frame, and she was all right. The third day, I gave them a few puffs and a frame of brood. Two days after, I found her balled and nearly exhausted after her long confinement. I shut up the hive, and gave them 2 or 3 good smokings, and the next day found eggs, and, giving them 2 frames of brood and closing the hive, smoked her again. But when giving them brood again, which I found while extracting, I neglected to smoke them after closing the hive. Three or 4 days afterward, while looking to see how she was getting along, I found cells. The little black rascals had balled and killed her.

DON'T BE IN HASTE TO PINCH A QUEEN.

In due time the cells hatched, but I did not look into the hive till after the young queen had had time to be fertilized. I then looked for eggs, and found a few scattered ones, and the queen with her wings gone, except $\frac{1}{2}$ of one, on the first frame I looked at. I was certain she was a drone layer and instantly pinched her; but, on looking farther, I found two frames nearly full of eggs. She was almost exactly like her mother.

BLACKS BALLING THEIR QUEEN.

I do not want any more of the blacks in my apiary, as they do not do anything as thoroughly as the Italians, and are a great deal worse about balling their queens and robbing. I lost 7 queens during the spring by being balled, 3 from 6 colonies of blacks and 4 from 40 colonies of Italians. Two of them were my best ones. And now I do not open a hive that contains one of my best queens without giving them two good smokings after closing it. Also I am careful not to pinch a young queen that

has imperfect wings, as they are sometimes balled after their excursions. I do not think I would kill a queen in opening hives once in 1000 times, as my frames are made so the combs will not touch. The balling is done oftener than we think, and there is more danger from a light than a good smoking. I have already saved 4 queens that I saw balled this season.

S. S. BUTLER, M. D.

Los Gatos, Cal., Aug. 4, 1880.

TRANSFERRING AND ITALIANIZING UNDER DIFFICULTIES.

I transferred 20 swarms of bees last week and got 10 of them, and 350 lb. of honey, and \$18.00 cash for 12 Italian queens, and made the trip in 4 days, going 30 miles over the most hilly and rocky road in the state. I furnish hive, and transfer on the halves, and introduce fertile queens at \$1.50, and insure purity and life. I got home with less than 100 dead bees out of 3 bushel, and made 14 large swarms out of them. I killed the black queens, and put in frames of Italian brood, each containing a capped queen cell.

DRONES; ONE WAY TO GET RID OF THEM.

The 2nd day after my return, I drove each swarm through a trough 1 ft. wide, and 6 ft. long, with 6 in. sides, and as they passed the gauntlet, we (wife, son, and I) caught the drones and killed them. I don't think we left a dozen in all. I counted 485 that I killed out of one hive, and wife and son killed almost as many. So we have got rid of a good many honey eaters, and will get our queens purely mated. It took us a good half day to catch the drones out of the 14 swarms.

We found in the top of each hive, at Mr. Dodson's, whose bees I transferred, a dark substance, which looked and tasted like molasses. He said there had been no sorghum mills within 4 miles of him, for 4 years; but the more I tasted it, the more fully I was convinced that it was molasses, and I told him so. After awhile a neighbor called, and Mr. D. told him my opinion of it; and he told Mr. D. that a neighbor had spilled apart of a bbl. of molasses last April, just after our heavy freeze. So it was accounted for. Out of 9 swarms, we got 40 lb. of molasses, or "blooded" honey, as I called it.

T. Q. AYARS.

South Bosque, Tex., July 30, 1880.

RESUSCITATING QUEENS APPARENTLY DEAD.

On page 399, August GLEANINGS, you give an instance of a queen's having the cramp, and close with the remark, "There are a good many 'kinks' with queens, as well as with bees, you see." Last spring I had occasion to introduce a queen, and, not having any honey right handy, thought I would try scenting water with oil of Rhodium. I put a few drops into a cup of water and dropped the queen into it. The instant she touched the water she "keeled" over as "dead as a herring." I picked her out, and laid her on my hands, all wet and curled up as though she had been dead for a week. I looked at her with the thought, "There, you green horn, perhaps you will try kerosene next time," and, in my disgust, I threw the dead (?) queen into the hive for the bees to bury. Then you can imagine my astonishment the next day, when I opened the hive and found my queen laying nicely in spite of the oil. It may be a good thing to put on fish bait, but I rather *guess* I won't try it again on a queen. Who knows but the bees have some way of restoring the suspended vitality more than we wot of?

Oquawka, Ill., Aug. 19, '80. WILL M. KELLOGG.

A FISH—BEG PARDON, I MEAN A BEE STORY.

A Mr. Miles, from Richland Co., S. C., has just given me a call, and while he was here, we had a chat about the source from which bees gather honey here. He says that he has a fine place for bees, and that bees generally do well in that county. He tells me that they have had a large yield of honey from honey dew this season. He states that one of his neighbors suspended 6 stands of bees on scales to test the quantity of honey gathered per day, and was greatly surprised to find the average yield per day to be 63 lbs. per colony. He says that they were suspended 6 days, and the largest yield from one colony was 68 lbs., and the smallest was 61 lbs. per day. He furthermore states that the dew was so heavy that the tips of the leaves had large drops hanging on them. The ground had the appearance of a shower of rain. Now, Mr. Editor, I would like to know how much honey a good colony of bees can gather, where it hangs on the leaves right at their door.

W. S. CAUTHEN.

Pleasant Hill, Lan. Co., S. C., Aug. 18, 1880.

The largest yield I have ever had, as you will see by the A B C, is a little over 14 lbs. per day, for a period of three days. With the multitude of experiments I have made in feeding, I have never succeeded in getting bees to take much, if any, more than that quantity from a feeder in the time mentioned. Perhaps we would better hunt up the man and locality mentioned above, and locate our ranches around him.

INTRODUCING BY "CAGING" A WHOLE FRAME OF BROOD.

As I am an A B C scholar of about one year's experience, and have a way of my own of introducing queens, it may be of interest to you to know something of it. As I have never lost a queen by introducing, I think that I could give a queen to the most stubborn stock of blacks or hybrids that can be found. I have this day mailed to you a model of the apparatus I am using. You will see at once the principle, and, if you see fit to publish it, you can write your own description of it. Mine is 18 1/2 inches long by 9 1/2 deep, and 2 inches wide, inside measure. I go to the hive to which I wish to give the queen, and take out a frame of brood that is hatching, brush off the bees, and hang it in the introducing cage. Then I let my queen, with her attendant bees, out on the frame, and fasten down the cover, and place her, cage and all, in the centre of the swarm. In a very short time she will have a nice lot of young bees with her, and she will become so thoroughly scented with the young bees, and the comb that she is running on, that it is impossible for the old bees to detect her when she is turned loose. Besides we need not be in a hurry to let her loose, for she is usually laying and doing well. It may be from two to ten days before I let her loose, which I do with no further trouble than turning two screws, taking off the cover, and closing up the hive, allowing her to come out at her leisure. It may be a day or so before she comes out, but when she does come, you may be sure she is received all right.

Ravenna, O., Aug. 18, 1880.

J. C. CONVERSE.

Your plan has been given here before, friend C., and, although it usually succeeds, I am inclined to think you rather exaggerate the advantages of it. The queen cannot well lay more than 3 days thus caged up, and

I can hardly think it profitable so long, because the very young bees caged up with her are not old enough to prepare the cells for her, or take care of the eggs when they are ready to hatch. If the enclosed comb contained pollen also, as well as honey, perhaps they might take care of the brood, but I think it a little doubtful, unless you have actually made the experiment and seen her fill the frame with brood. In my experiments in confining bees thus in the hive, they have always worried the whole of the inmates, by trying to get out, after being caged several days. The model you send is an extremely well made machine, and evinces talent enough to enable you to succeed with any thing.

HONEY IN AUGUST.

The last half of June and the first 4 days of July were very wet, so that only the very strongest stocks of bees made any more than a living, and nuclei had to be fed up to the middle of July. We have had but two sprinkles of rain since July 4th, and neither of them wet the dust through, yet, strange to say, bees have gathered more honey in the last 4 weeks, than I ever knew them to do at the same time of year before. Even 3 frame nuclei are now getting considerably more than they use, yet nearly all my colonies insist on storing all in the brood chamber even to the cramping of the queen. I have 65 colonies and 22, 3 frame nuclei, and they are using about 4 gallons of water daily at home, besides many of them go to the brick yard which is about 40 rods distant.

MELLILOT.

My mellilot commenced to bloom about the middle of June, and the bees were thick around it until about the middle of July, when it almost quit blossoming, and I saw scarcely a bee about it till within the last week. It now has a fresh crop of bloom, and the bees are thick around it all day.

C. T. SMITH.

O'Fallon, St Clair Co., Ill., Aug. 16, 1880.

CROSS BEES, AND WHAT TO DO WITH THEM.

I have a swarm of bees that I will describe, and would like you to tell me just what to do. Lately they have been too much for me. King's directions will not do. I can not subdue them with smoke. The instant I smoke them, they will come for me. To-day I put on veil and gloves, and went for them with the smoker; it was no use. You say some swarms can be handled better without smoke,—impossible with this one. Please tell me next issue how you would manage them. You would probably Italianize them; but, were I to open the hive again, the queen would be in the air trying to sting me and I should not be able to find her.

C. H. BOYD.

North Monroe, Waldo Co., Me., July 28, 1880.

Occasionally, we find a colony, that seems like a veritable den of tigers to subdue, and it may be well to consider what is best to do with such. If it is during a honey yield, which is very improbable, much can be done by regular daily feeding, for about a week. A lump of maple or even grape sugar, say 4 or 5 lbs., laid on the frames, will be sufficient for the whole. When they have taken it up so that the combs look white along their upper edges, you can handle most colonies without any smoke at all, in nice,

warm weather. If you are going to subdue them with smoke, first clean up your smoker, by scraping off all the soot around the tubes, with a hard wood stick whittled something the shape of a knife blade. See that the valves are right, and if it has been left out in the rain, see that the bellows does not leak. Put it in good order, and with good fuel, you should be able to so deluge any hive of bees with smoke, that resistance is out of the question. It may be well to smoke them at the entrance before opening the hive. After they are once conquered, be careful that they are not trifled with afterward, by letting them chase folks around the yard. By the above directions, you may be able to smile at the idea of any hive of bees you can not master.

AN A B C SCHOLAR'S DESCRIPTION OF HOW HE MAKES BEES OUT OF SUGAR.

I am not in Blasted Hopes you see, for my first 4 swarms gave me 4 more swarms last week, the largest that I have had this year, and in the latter part of July, too. Just think; 20 swarms in two seasons, and that out of a few handfuls of bees to start on! Why, they are made of *coffee A. sugar syrup*. I have sold 5 swarms, bringing me just \$25.00, and leaving me, at present, 15 colonies. My, it is just fun to hive them, and seek out the queen, and take her by the arm, and lead her into her house. I have not lost a swarm, or had any trouble hiving them. I have had an acre of buckwheat in blossom over a week, and the bees are happy every forenoon.

My Alsike is commencing to blossom some, and also the white clover that I sowed last spring, and bees are working on both of them. The wet weather seems to drive a second crop of white clover which grows so spontaneously that the roadside is all white, and bees are working nicely. I have also another piece of buckwheat that will come into bloom in about 10 days, and another sowed a week ago. I shall have to go to extracting pretty soon, or my second swarms may swarm. Some of them are getting pretty full. If you come out here to see us, I am pretty sure I can feed you with buckwheat honey, and buckwheat cakes.

H. L. WARSTLER.

St. Johns, Mich., July 26, 1880.

I should enjoy it "hugely," friend W., for I have enjoyed reading your cheerful letter; but my place seems to be here just now.

LARGE NUMBER OF QUEEN CELLS ON A SINGLE COMB.

I feel just a little bit snubbed, just a little. It is a very small matter, but then I feel it all the same. If you are an honest, truthful, sensitive man, you can sympathize with me; and I do not doubt your honesty and veracity, but I suppose your feelings are somewhat callous from long usage. I will tell you the little matter.

N. A. Prudden wrote to you about losing so many young queens, and, in answer, you say as high as 50 queen cells have been found at once in a single hive. You did not propose to state what you had seen yourself. Well; just about the time he wrote that, or, perhaps since, I wrote you stating that I had 61 queen cells on one single frame. I know there was no mistake, and I believe I know how it is done, and can do it again. They were all capped, and my wife and I both counted them. There were 43 on one side. You know it is not a hard matter to count queen cells when they are capped. I tried to cut

some out. I had to cut out 5 the first time to avoid cutting some in two. The next time, I had to cut out 8, and then had to cut one in two to get them.

Your statement has convinced me that I stand head for a large number of queen cells on a single sheet of comb, L. frame. B. F. CATHEY.

Cabot, Ark., July 10, 1880.

Are you not a little uncharitable, friend C.? It is because of the great mass of correspondence before me, and not because I have any disposition to be partial, that your letter was passed by, and friend P.'s given.

Notes and Queries.

I HAD a swarm in a 1½ story, Simplicity hive, which became very weak. I could not find a queen at all; still they had drone brood and larvae. I found one queen cell, in which there was a larva, but in a short time it was torn down. I changed places with a very strong colony, and now it is strong, and seems to be all right. What was the matter with it? and did I do right?

T. H. DUNCAN.

Oakland, Coles Co., Ill., July 8, 1880.

[Your hive has a fertile worker, or a drone laying queen, I think, friend D., and, if so, they will soon be as bad off again. You must give them a good queen. See A B C.]

BEES THAT WILL NOT WORK IN THE UPPER STORIES.

Our bees have not made a pound of surplus honey this year. The brood chamber is filled up with honey. Please inform us what is the matter with the bees.

CHAS. ABRAHAM.

Hillsboro, Miss., July 19, 1880.

[If they will not work above, put a wide frame full of sections in the lower story, friend A. That we may be able to do this with stubborn stocks is one great purpose of the wide frame of sections.]

THE PARIS DIPPING MACHINE.

We looked with great interest for July No., for something durable for dipping fdn., and behold! plaster of Paris dipping plates. We have used them 2 seasons for dipping starters. I think Oliver Foster ought to have some credit for dipping plates. I sent to you for fdn. a year or two ago to make casts, but it all got broken in the mails.

STEPHEN HILL.

Port Huron, Mich., July 13, 1880.

[A great many deserve credit, friend H., who perhaps never get it from the great masses of the people.]

ALMOST "BLASTED."

I deem it the duty of every bee-keeper to send report of honey crop in his locality for publication, and thereby all may be informed. I report ¼ crop, the poorest in ten years. It has been rather too cold for bees to work much since basswood. White clover was a failure. It is cold and raining at present writing. I am retailing at home for 20c. Syracuse markets are flat, on account of sharp dealers, and small bee-keepers that will sell for any price.

F. L. SMITH.

Watervale, Onondaga Co., N. Y., Aug. 19, 1880.

My bees build so much comb between the brood frames and the wide section frames, that when I lift the upper story off, most all of the brood frames

lift out with it. If I want to look into the lower story, I have to take out one frame at a time, and cut the new comb off, which I find very inconvenient and annoying, as it takes so much time. Is there a remedy for it? The hives and frames were furnished by you. That queen got fertilized but not by that one drone, for he is around yet.

GEO. H. MCGEE.

Point Marblehead, O., July 13, 1880.

[Reduce the space between upper and lower frames to ¼ inch, and you will have little trouble with most colonies. Occasionally, however, we find one that will build it all solid with honey almost, in spite of us. I know of no perfect remedy for these exceptional cases.]

Our bees (14 stands) made no honey until linn bloom. Then, Oh my! it came in with a rush, but they are not doing much since. The "gude mon" is "gone on a journey," even down to Boston, to visit his brother, Rev. A. Bunker, who goes back to his mission work in Burmah soon; so I am trying to manage the bees, the farm, and the three "manikins" by myself.

CLARA BUNKER.

El Dora, Ill., July 16, 1880.

[May God bless the missionary, as well as the "gude mon," yourself, and the "manikins," friend Clara.]

I commenced in the spring with 4 weak colonies, in wood frames, which I successfully transferred to metal cornered frames. I increased to 10 good colonies. We have plenty of honey for home use, and have sold some. Out of the 5c. pkg. of Spider-plant seed, we succeeded in getting 27 plants to grow, which have been blooming for the last 2 weeks, but I haven't noticed any bees on it, till the last few mornings.

JOS. B. WISE.

Nappanee, Ind., July 20, 1880.

[Guess you didn't get up early enough, friend W.]

WILL BEE STINGS CURB RHEUMATISM?

To every bee-keeper: Will be sting or you please answer the following questions by postal card or letter.

1st.—What is your age?

2d.—How long have you been handling bees?

3d.—Were you afflicted with rheumatism before engaging in the business? If so, do you get partial or complete relief when "stinging time" comes? or do you get worse from year to year?

4th.—If you did not have rheumatism previous to engaging in bee culture, have you been so afflicted since?

5th.—About how many stings do you get during the honey season?

Please answer promptly, and I will report the result in GLEANINGS.

W. W. LEMMON, P. M.

Otwell, Pike Co., Ind.

[Answers can be sent to me, to save trouble, and I will report. I think the stings act only as a counter irritant.]

We have had a cyclone of honey for the last three weeks. I never saw such a feast before.

PROPAGATING HONEY TREES BY LAYERS.

Lay some limbs from your paulina trees on the ground, and cover them up all except a few inches at the end, and they will perhaps take root in one or two years. I propagate apple, peach, and almost all kinds of trees in that way. Sprouts that come out near the ground are best.

M. S. KLUM.

Horne, Grayson Co., Tex., Aug., 1880.

KILLING BEES FOR THEIR HONEY AND WAX.

I have 178 hives of bees, and intend to kill about 100 of them this fall. It has been altogether too wet for a good honey season so far. The rest of the season may be better.

O. C. BLANCHARD.

Ironton, Sauk Co., Wis., Aug. 3, 1880.

[Cannot some one who lives near friend B. make it more of an object to him to sell his bees than to kill them? With the great demand there is for bees from almost all parts of our land, it surely seems that it would be a loss of money, to say nothing of the cruelty of the act, to kill a hundred colonies. The honey obtained by killing bees is not in a desirable shape, and the labor of trying out the wax, under such circumstances, is certainly no small one, for so little pay as it will bring. It occurs to me I am speaking rather mildly in regard to an important matter, but perhaps mildness is best.]

HONEY REPORT.

In April, 22 stocks; now, 40 stocks. Extracted up to date, 285 lb.; no comb honey. Bees are now at work on Boneset, Queen of the Meadow, Golden Rod, and Fire Weed. Forepart of season was too wet; now it is too dry. It is doubtful about any more surplus.

J. CHAPMAN.

Home, Mich., Aug. 14, 1880.

GOLDEN ROD.

Bees are now bringing in considerable honey from golden rod, etc. It is rather early for the golden rod, I think.

JAS. A. GREEN.

Dayton, Ill., Aug. 16, 1880.

Am much pleased with the honey prospect, but was quite discouraged until recently, as the bees gathered but little honey from clover; but now, I hope they will store enough for winter use.

C. Winchester, O., Aug. 17, '80. I. E. STEVENSON.

SAVING TIME THAT WOULD OTHERWISE BE WASTED.

Friend Novice.—You have no idea with what anxiety I look for each No. of our GLEANINGS. I received a copy through a friend in 1877, and since that time I have been more deeply interested in the honey bee than I had ever been before. In pursuing my favorite study, I find a healthy pastime, inestimable pleasure, and, last but not least, a profitable employment for hours and even days that might otherwise be idled away.

MILLARD BERRY.

Duck Creek, Dallas Co., Tex., Aug. 7, 1880.

Other business has kept me from the care of bees for 3 years past, but I took a colony this spring for debt, and they have done so well that I feel the old bee fever coming on again.

J. M. HILL.

Denison, Grayson Co., Tex., July 26, 1880.

FOUR BANDED ITALIANS.

Look among your Italian bees, and I think you can find many of them having 4 yellow bands. We have them, and have often shown them to visitors. About the red-clover bees: our Italians have always worked on the red clover, and on the first crop as well as the second.

RULISON & SIMPSON.

Flushing, Genesee Co., Mich., Aug., 1880.

[We find plenty of them, friends R. and S., having four or more downy bands, but do not find any having four bands in the horny scale, as mentioned in the A. B. C. It is true there may be such, but as yet I have never noticed any, except on one specimen sent by friend Jones.]

BEE HUNTING WITH A SURVEYOR'S COMPASS.

I wish to tell you something about our bee hunting which you did not tell in the A. B. C. We take a surveyor's compass, get as direct a line as we can by watching the bees fly, then set the compass by the line and follow the line with compass. By this method, I can move the bait from the top of one mountain to the other. We hunted a few days this summer in that way, and did not miss the tree ten steps.

S. H. BLOSSER.

Dayton, Va., July 14, 1880.

HOW LONG IT TAKES A QUEEN TO GET TO LAYING AFTER A JOURNEY.

I received the queen on the 8th, all right. I had no trouble in introducing her this time. It was about six days before she commenced to lay.

WILFRED P. ROYS.

Sheffield, Mass., July 16, 1880.

[I believe they usually lay in one or two days.]

CURING HONEY BY THE SUN'S RAYS, ETC.

Honey rakes came to hand in due season and gave me an agreeable surprise. A Yankee for invention. Please display the same trait in advising me as to the best material and shape of a sun evaporator for honey, with a capacity of two or three barrels. I have cured my honey this year in large tin pans, holding 150 lbs. each; but now the bees are about them so thick that I have to cover them.

New Smyrna, Fla., Aug. 3, 1880. W. S. HART.

[Thanks, friend H., but the tin rakes are not my invention; they belong to friend Detwiler, as I told you last month. I would suggest covering your evaporators with wire cloth, when bees trouble.]

INTRODUCING QUICKLY.

The Holy-Land queen came to hand in nice shape yesterday. I got her from the post-office about 2 o'clock P.M., took her to my friend Brooks, some 5 miles, and had her safely introduced to a colony of bees at 4 o'clock P.M. She was all right when I left there at 7 o'clock in the evening.

C. THOMSON.

Brighton, Mich., Aug. 13, 1880.

GRAPE SUGAR FOR WINTERING, ETC.

We have no honey to date, and but three natural swarms from 115 colonies. By feeding a barrel of grape sugar my bees wintered in splendid condition. Bee-keepers are discouraged, and going out of the business. Unless we have a good fall yield of honey, bees will be scarce till another season.

Sterling, Ills., Aug. 6, 1880. A. F. STAUFFER.

[What grape sugar did you use, friend F?]

BUCKWHEAT; AT LEAST ONE GOOD REPORT FROM IT THIS FALL.

My bees are working like little beavers on a piece of buckwheat which I sowed early for them. They are storing in sections very fast.

CARL TUTTLE.

Berlin Heights, O., Aug. 8, 1880.

KEEPING FDN. NOT BUILT OUT IN THE HIVES.

Will fdn. keep all right until next season, if kept in the hive well closed up?

WM. M. YOUNG.

Nevada, Wyandot Co., O., Aug. 9, 1880.

[It will keep all right almost anywhere, or in any way, unless it contains honey to attract mice or robbers, or pollen to attract the moth. If the latter you must look to it often, as you would empty combs of any kind, and brimstone them, if they prove wormy. After freezing weather comes, they are safe from the moth, until about next May.]

MISSING THE HUM OF THE BEES.

When my book came it made me feel rather down hearted, as I thought of my own loss in bees, for I dearly love bees and to care for them. I did say when my last swarm went, I would never keep bees again, but I feel as though I must make one more trial, for I miss the noise of the busy little fellows, and when at my work this summer, I have not looked across the lot and seen my little boy coming on a run, with his hat in his hand, saying at the top of his voice, "Papa, come quick; the bees are swarming." He would go right among them, never being afraid of them, and I do not think he was ever stung but once.

G. D. ANNIS.

Millville, Orleans Co., N. Y., Aug. 1, 1880.

HONEY DEW IN DENVER, COLORADO.

Bees are doing finely. The trees in Denver are dripping with honey dew. I never saw anything like it before.

J. L. PEA BODY.

Denver, Col., Aug. 10, 1880.

SILVER HULL BUCKWHEAT.

The buckwheat I bought from you is now in full bloom, and full of three-banded Italians; but every bee I can see on it has got pollen, so it makes me think they don't get any honey from it. I sowed it on June 28th; it is 3 feet high already.

L. A. BEST.

Best's, Lehigh Co., Pa., Aug. 5, 1880.
[Bees usually get pollen as well as honey from buckwheat, I believe, as they also do from most honey plants.]

QUEENS TAKING WING.

I received the queens all right, but I lost the best one. As I opened the cage, she took wing, and went east. I suppose she is going yet. I was sorry for the loss, but such is life; sometimes we lose, and at other times gain.

O. L. DICKINSON.

Story City, Iowa, Aug. 20, 1880.

[A great many complaints have been made of queens flying away. Always open the cage before a window, unless you are introducing her. In introducing, open it so she shall step out directly among the bees. We never have them fly in our apiary. Clipping the wings has been dropped, because it excites and worries a queen too much before shipping, and, if done at any other time, many would object to a clipped queen.]

The queen you sent me has now a strong colony and is doing finely; I have about 20 of her daughters now laying.

HOW OLD MUST A QUEEN BE TO LAY?

I have been surprised with their precocity. Nearly all of them are laying the sixth day after they leave the cell. Is this the rule with the imported daughters? Though they are neither as large or light colored as my home-bred queens, they seem to be quite as prolific.

I still think I ought to pay you for "comb" sent me, as, from the eggs it contained (laid on the way), I raised 13 queens, 3 days sooner than I could possibly have done had they come without comb.

Ridgefield, Conn., July 17, '80. S. W. STEVENS.

[Your queen must be an exception, I think, friend S., as they usually lay when about 8 or 10 days old.]

CARTOONS.

In regard to the cartoons, I shall vote with both hands to have them continued. I think, possibly, the reason why some call them silly is because they picture too closely the careless and silly way in

which very many bee keepers take care of their bees. For me, it's real fun to look at them, and read them. The question is asked, "Which kind of a bee-keeper do you intend to be?" For me, if I ever am a bee-keeper at all, I mean to be one of the best.

Bellowsfalls, Vt., Aug. 15, 1880. A. P. FLETCHER.

QUEENS LOST IN INTRODUCING.

I received the queen you sent me, but lost her in introducing, and I wrote you word all about it, but have not heard from you, and conclude you did not get the letter; so I send you this card. Please let me know at once, and oblige —

A. S. SHELTON.

Russellville, Ky., July 29, 1880.

[Why, friend S., there was nothing to write that I know of. I am very sorry, indeed, for those who lose their queens in introducing, but should I undertake to make good such losses, I am afraid my friends would really have some grounds for saying I was going crazy over the idea of trying to please every body. Am I not right about it?]

TWO QUEENS IN A HIVE, ETC.

I have been trying some more experiments on natural queen cells, with one imported queen, and one home-bred. After a queen gets the notion of laying in the cups, you will be troubled to keep her from raising queens in the hive. The two stocks mentioned furnish cells enough to keep 35 nuclei supplied as fast as their queens mate and get to laying. I have seen about 20 cases of dual queens this season, and I think I know the cause.

Woodbury, Conn., July 29, 1880. H. L. JEFFREY.

HOW SOME OF THE IMAGINARY TROUBLES TURN OUT.

My imported queen that I wrote to you about this spring, I am glad to report, is all right. The young black bees were in the hive without a doubt, but how they got there is still a mystery to me.

CHAS. BOWLES.

Hillsboro, Highland Co., O., July 27, 1880.

SWARMS GOING BACK TO THE OLD HIVE.

My bees have swarmed out of my frame hive, and I attempted two or three times to put them into a new one, but instead the cluster goes back to the old hive, and hangs on underneath, and is commencing to make comb.

A. I. WRIGHT.

Lakefield, Ont., Can., July 19, 1880.

[Your queen was probably unable to fly, and after hopping about in the grass, crawled up under the hive. The bees, missing her, came back to where they left her last, and clustered around her. To avoid such mishaps, I would have no vacant space under the hives.]

AN A B C SCHOLAR'S FIRST YEAR.

I bought 2 stands of bees on the 16th of June, 1879, for which I paid \$18.50. They gave 117 lbs. of box honey in the fall. I took good care of them, and don't think I lost 100 bees. I commenced feeding them syrup of coffee A sugar, the 1st of March and they commenced swarming on the 2d of May. During May, they swarmed 4 times. Two came off the fore part of June, and went to the woods, leaving 6 stands. These are doing well. One stand appears to produce $\frac{1}{2}$ drones. Can that be prevented?

Ada, O., July 28, 1880.

JOS. KINNEAR.

[You did well, my friend, except in letting 2 swarms go off to the woods, after you had built them up so nicely by feeding. To be sure, the drones can be helped. Use fdn., and don't let them have combs that they can rear drones in.]

HARDENING PLASTER DIPPING PLATES.

I would say to you, dissolve alum in the water with which you wet up your plaster for dipping plates, to harden them.

LEWIS T. COLBY.

Enfield Centre, N. H., July 5, 1880.

[Thanks; but I fear the hot water would dissolve the alum, friend C.]

WHERE DID THE EGG COME FROM?

I cut abee-tree this season and killed the queen. I brought the bees home and hived them on fdn. They started some 30 queen cells, in one of which I found an egg. I did not want to wait to see if it would make a queen. Isn't it a little mysterious where they got it?

C. G. KNOWLES.

Portland, Meigs Co., O., July 16, 1880.

[If you had let the egg hatch friend K. and it had produced a queen, it would have been pretty strong evidence that bees carry eggs from one hive to another. If the egg was laid in the cell by a fertile worker, it would be nothing very mysterious, or unusual.]

I am well pleased with GLEANINGS. I could get you subscribers, but it would "cut my own nose off," for I can sell all the honey I can raise with my bees here at home. GLEANINGS would waken people up, so more honey would be produced, and spoil my trade: that is, if they would learn as much as I have from it. My bees are doing well. All that I regret is that I did not know sooner that you were printing GLEANINGS.

JOHN S. KING.

San Jose, Santa Clara Co., Cal., July 12, 1880.

[I don't believe your philosophy is very good, friend K. I believe it is generally admitted that those who give all the information they possess the most willingly and freely are the ones who prosper, while those who take pains to keep their neighbors in the dark are the ones who have—perhaps "bad luck" will be as good a name as any for it.]

THE SWARMING BOX AND HOW TO USE IT.

We have 78 swarms, but you might put the swarming box on the Growlerly list, as we did not know how to use it.

HARRISON WOODFORD.

Waterford, Erie Co., Pa., July 10, 1880.

[Why, friend H., I did not know any directions were needed. Hold it right among the clustered or clustering bees, and they will crawl right into those holes as if it were a hive. Did you try it in that way?]

Last July, I had 50 hives, and this spring came out with 19; do you think that comes under the head of Blasted Hopes?

L. W. WINANS.

Merricksville, Delaware Co., N. Y., July 13, 1880.

[I fear it does pretty nearly, friend W.]

QUEENS REARED LATE IN THE FALL.

I invested in several queens in October and November last year and the year before; and, without a single exception, they were worthless, or so nearly so that I never want any more late queens.

C. G. KNOWLES.

Portland, Meigs Co., O., July 3, 1880.

[The idea you suggest has been advanced before, friend K., but for several seasons, I have kept and tried the very last we raised on purpose to test the matter, and have found no difference that I could see. Those I tried, however, had their colonies kept up to an unusual vigor, by feeding them with flour candy. Queens reared in cool weather, in either spring or fall, and not in strong nuclei which are fed so as to get the same results as from a natural flow of honey, will be likely to be inferior.]

HOW BEES SURVIVED THE FLOOD; A SUGGESTION.

If they had as heavy floods in Noah's time, as we had the other day, it might account for the bees being saved in the Ark; as I saw a log gum, bench, bees, and all, floating down the Patapsco as comfortably as if they "remembered" the old 40 days' flood, and were prepared for another.

F. DELLA TORRE.

Reisterstown, Baltimore Co., Md., June 2, 1880.

A NEW BEE DISEASE. — "EMPTY CELLS."

I have taken from 4 hives about 300 lbs. of comb honey this season. Don't that do pretty well? But it is so dry now (we have had no rain for about 8 weeks) that I am feeding the same honey which they gave me. Is that not fair? A great many bees are starving out and leaving their hives. I was called yesterday to two different places to assist in re-hiving their bees, and to tell them, if I could, why they left their homes. One party thought there must be something in the hive; and, sure enough, in that, as in the other, I found empty cells.

T. R. TURNHAM.

Rockport, Ind., Aug. 23, 1880.

LAZY BEES, AND HOW TO PUT THEM TO WORK.

I have a colony of blacks in an American hive, that is very strong. It has not given any swarm this season, and keeps the front of the hive nearly covered with idlers. Smoking don't put them to work. If you think it will pay me to make an artificial swarm from them, by moving the old hive and giving them a new hive with comb, etc., send me a dollar queen for that purpose. The progeny of the 7 queens received from you this season are as perfectly marked as those from a tested queen received from you last season. We have had very few swarms in this section this season.

H. B. THOMPSON.

Curwensville, Clearfield Co., Pa., July 13, 1880.

I made one new swarm from two colonies. They had got very lazy, and laid out until yesterday, when I moved the two hives and put one of the Simplicities instead, with two frames of brood, and got the remaining bees in it, and am going to give them the queen I get. Is that right or not?

AB. HOWER.

Logansport, Ind., July 13, 1880.

[Exactly right, I should say, friend H., and your letter answers the question in the letter just before yours, as well as I could answer it; for I know of no better way of making bees work, when they have got a habit of loafing on the outside of the hive, while other stocks are at work.]

YOUNG QUEENS GETTING FAST IN A CELL.

A young queen, 2 days old, in a strong nucleus, was found dead in a worker cell, being as far in as she could get, head foremost. The queen was strong and active, and the nucleus in good condition. I never heard or read of such a case before.

Shawneetown, Ill., July 23, 1880.

C. SHERRICK.

[I don't know any remedy, friend S., unless we have cells filled with honey in such plenty that young queens will not have to crawl in so far after it.]

Does it injure bees to examine them often, say every two or three days?

[No; on the contrary, it does them good, if properly and carefully handled.]

Ought there to be a cloth of any kind between the lower and upper frames in a two story hive? [No.]

Should there be a cloth on top of the upper frames?

Bastrop, La., July 5, '80.

JAMES BUSSEY.

[Yes; bees should never, under any circumstances, be permitted to get up against the cover.]

Our Homes.

Blessed are the meek: for they shall inherit the earth.—MATT. v. 5.

SINCE these home papers were started, I have received many excellent books, from friends almost all over the world, and I have often felt sad when I looked at them, to think it is almost beyond possibility that I should ever read them all. Some that have been received during hurried seasons have been laid aside until some more convenient time, until I have actually forgotten from whom they came. Others have been read part way through, and then dropped. Please do not think me careless or ungrateful, dear friends, for it is not that, but only that my life will not cover so much. At many seasons, it is all my brains will bear, to read all of your letters, and were it not for the intervals I get in the open air, out among the honey plants, away from everybody, I fear I should not be able to do this. I mention this, that you may not think me purposely careless or ungrateful. I always, at least, give every book a hasty review, and many of them have been of more value to me than you are perhaps aware.

A kind friend in England has just sent me a work entitled "From Death Unto Life," with the request, if I think proper, that I would read portions of it at our noon-day service. I have done so; and one simple little story contained therein, I wish to give you here. It is as follows:

One morning, while we were sitting at breakfast, I heard some one walking about in the hall with a heavy step, saying, "Praise the Lord! praise the Lord!" On opening the door, I beheld a happy-looking little man, in a black Quaker-cut coat, which it was very evident had not been made for him, but for some much larger body. "Well, my friend," I said, "who are you?"

"I am Billy Bray," he replied, looking steadily at me with his twinkling eyes; "and be you the parson?"

"Yes, I am."

"Thank the Lord! Converted, are ye?"

"Yes, thank God."

"And the missus inside" (pointing to the dining-room), "be she converted?"

"Yes, she is."

"Thank the dear Lord!" he said, moving forward.

I made way for him, and he came stepping into the room; then making a profound bow to the said "missus," he asked, "Be there any maidens (servants)?"

"Yes, there are three in the kitchen."

"Be they converted too?"

I was able to answer in the affirmative; and as I pointed towards the kitchen door when I mentioned it, he made off in that direction, and soon we heard them all shouting and praising God together. When we went in, there was Billy Bray, very joyful, singing,

"Canaan is a happy place;
I am bound for the land of Canaan."

We then returned to the dining-room with our strange guest, when he suddenly caught me up in his arms and carried me round the room. I was so taken by surprise, that it was as much as I could do to keep myself in an upright position, till he had accomplished the circuit. Then he set me in my chair, and rolling on the ground for joy, said that he "was as happy as he could live." When this performance was at an end, he rose up with a face that denoted the fact, for it was beaming all over. I invited him to take some breakfast with us, to which he assented with thanks. He chose bread and milk, for he said, "I am only a child."

I asked him to be seated, and gave him a chair;

but he preferred walking about, and went on talking all the time. He told us that twenty years ago, as he was walking over this very hill on which my church and house were built (it was a barren old place then), the Lord said to him, "I will give thee all that dwell in this mountain." Immediately he fell down on his knees and thanked the Lord, and then ran to the nearest cottage. There he talked and prayed with the people, and was enabled to bring them to Christ; then he went to the next cottage, and got the same blessing; and then to a third, where he was equally successful. Then he told "Father" that there were only three "housen" in this mountain, and prayed that more might be built. That prayer remained with him, and he never ceased to make it for years. The neighbours, who heard his prayer from time to time, wondered why he should ask for "housen" to be built in such an "ungain" place.

At last, after sixteen years, he received a letter from his brother James, to say that they were hacking up the "croft" to plant trees, and that they were going to build a church on the hill. He was "fine and glad," and praised the Lord. Again he did so, when his brother wrote to say there was a vicarage to be built on the same hill, and a school-room also. He was almost beside himself with joy and thankfulness for all this.

In the year 1848, when the church was completed and opened, he came on a visit to Baldhu, and was greatly surprised to see what a change had taken place. There was a beautiful church, a parsonage, with a flourishing garden, and also a schoolroom, with a large plantation and fields round them. He was quite "mazed," for he never thought that the old hill could be made so grand as that! However, when he went to the service in the church, his joy was over; he came out "checkfallen," and quite disappointed. He told "Father" that that was nothing but an "old Pusey." He had got there, and that he was no good. While he was praying that afternoon, "Father" gave him to understand that he had no business there yet, and that he had come too soon, and without permission. So he went back to his place at once, near Bodmin, and continued to pray for the hill.

After three years his brother James wrote again; and this time it was to tell him that the parson and all his family were converted, and that there was a great revival at the church. Now poor Billy was most eager to come and see this for himself, but he obtained no permission, though he asked and looked for it every day for more than three months.

At last, one wintry and frosty night in January, about half-past eleven o'clock, just as he was getting into bed, "Father" told him he might go to Baldhu. He was so overjoyed, that he did not wait till the morning, but immediately "put up" his clothes again, "hitched in" the donkey, and set out in his slow-going little cart. He came along singing all the way, nearly thirty miles, and arrived early in the morning. Having put up his donkey in my stable, he came into the house, and presented himself, as I have already stated, in the hall, praising God.

We were a long time over breakfast that morning, for the happy man went on from one thing to another, "telling of the Lord," as he called it, assuring us again and again that he was "fine and glad, and very happy"—indeed, he looked so. He said there was one thing more he must tell us; it was this—that he had a "preaching-house" (what we should now call a mission-room), which he had built years ago. He had often prayed there for "this old mountain," and now he should dearly love to see me in the pulpit of that place, and said that he would let me have it for my work. He went on to say that he had built it by prayer and faith, as "Father" sent him help, and that he and another man had built it with their own hands. One day he was short of money to buy timber to finish the roof; his mate said it would take two pounds' worth; so he asked the Lord for this sum, and wondered why the money did not come, for he felt sure that he was to have it. A farmer happened to look in the next morning, and Billy thought he had come with the money, but he merely asked them what they were doing, and then took his departure, without giving them help. All that day they waited in expectation, and went home in the evening without having done any work. The next morning the same farmer appeared again, and said, "What do you want two pounds for?" "Oh," said Billy, "you are come, are you? We want that money for the roof yonder." The farmer then went on to say, "Two days ago it came to my mind to

give two pounds for the preaching house, but as I was coming down the hill on yesterday morning, something said to me, "If you give one pound it will be handsome;" then I thought I would give only half a sovereign; and then that I would give nothing. Why should I? But the Lord laid it on my mind again last night that I must give you two pounds. There it is!"

"Thank the Lord!" said Billy, and proceeded immediately to get the required timber. In answer to prayer he also obtained "reed" for thatching the roof, and by the same means timber for the forms and seats.

It was all done in a humble manner, so that he did not dream of buying any pulpit; but one day, as he was passing along the road, he saw that they were going to have a sale at the "count house" of an old mine. He went in, and the first thing which met his eye was a strong oak cupboard, with a cornice round the top. It struck him that it would make a grand pulpit, if only it was strong enough; on examination, he found it all he could desire in this respect. He thought if he could take off the top and make a "plat" to stand upon, it would do "first-rate." He told "Father" so, and wondered how he could get it. He asked a stranger who was there, walking about, what he thought that old cupboard would go for? "Oh, for about five or six shillings," was the reply. And while Billy was pondering how to "rise" six shillings, the same man came up and said, "What do you want that cupboard for, Billy?" He did not care to tell him, for he was thinking and praying about it. The man said, "There are six shillings for you; buy it, if you will." Billy took the money, thanking the Lord, and impatiently waited for the sale. No sooner was the cupboard put up, than he called out, "Here, maister, here's six shillings for ua," and he put the money down on the table. "Six shillings bid," said the auctioneer—"six shillings—thank you; seven shillings; any more for that good old cupboard? Seven shillings. Going—going—gone!" And it was knocked down to another man.

Poor Billy was much disappointed and perplexed at this, and could not understand it at all. He looked about for the man who had given him the six shillings, but in vain—he was not there. The auctioneer told him to take up his money out of the way. He complied, but did not know what to do with it. He went over a hedge into a field by himself, and told "Father" about it; but it was all clear—"Father" was not angry about anything. He remained there an hour, and then went homeward.

As he was going along, much troubled in his mind as to this experience (for he still felt so sure he was to have that cupboard for a pulpit), he came upon a cart standing outside a public-house, with the very cupboard upon it, and some men were measuring it with a foot rule. As he came up, he heard them say, "It is too large to go in at the door or the window either." The publican who had bought it said, "I wish I had not bid for the old thing at all; it is too good to 'scat' up for firewood." At that instant it came to Billy's mind to say, "Here, I'll give you six shillings for un." "Very well," said the man, taking the money; "you can have him." Then Billy began to praise the Lord, and went on to say, "'Father' as good as told me that I was to have that cupboard, and He knew I could not carry him home on my back, so He has found a horse and cart for me. Bless the Lord!" Promising to bring it back very soon, he led the horse down the hill, and put the old cupboard into the preaching-house. "There it is!" he exclaimed, "and a fine pulpit he does make, sure enough! Now," said Billy, "I want to see thee in it. When will you come?" I could not fix for that day, or the next, but made arrangements to conduct a series of services the next week, and promised to have them in that place.

One of the points that impressed me in the above was Billy's constant attitude of heart toward God. You will remember what I said about this last month. If I get a correct idea of his life, it was one of humble thankfulness and confidence all the day long. "Praise the Lord." Dear reader, how many hours in the day, can you truthfully say the same in your heart? When we look cross, or are in a complaining attitude, or are dissatisfied, or despondent, are we not getting out of the humble and meek frame of mind

that would be most fitting and consistent in man toward his creator?

Did you ever notice a mother while trying to pacify a spoiled and ungrateful child? How she would, with much patience, first get one article of food and then another, taking all the pains possible to fix and season it just according to the child's taste? Suppose now, as soon as it is presented, the child, with expressions of rage, dashes the plate and spoon away from him, and with screams declares that it is not what he wanted at all, and that he will not have it. Perhaps he has spattered and soiled his clothes, and may be his mother's dress, but what does he care? His attitude is certainly not suggestive of meekness, is it? And would it not be a sad thing if such as he should "inherit the earth?" Has his behavior not a good deal that is human in it? even though we feel, for the time, as if it would be soothing to our feelings to see the mother carry him away and give him such a spanking as to take the "ugly" completely out of him, and make it give way to a proper and respectful attitude. I do not mean to say that whipping alone will do it, for it most assuredly will not, if administered by one with the same unbroken and ungrateful spirit as his own, but I have drawn the picture to illustrate what the opposite of meekness is in the human heart. The young men who frequent our saloons, and whom I meet in our jails almost every Sunday afternoon, are children such as I have pictured, after they have grown up. How widely does the spirit and disposition differ from that exhibited by our friend Billy, when his longed for "cupboard" almost within his reach, and directly in answer to prayer too, was suddenly snatched away from him, by one who wanted it for a barroom? It seems he did not doubt the "Father," but he was a little surprised and perhaps somewhat disappointed. He had faith and sense enough to climb over the hedge and go off by himself, just exactly the proper thing to do, and ask God all about it. God was not displeased about anything. How quickly one who is acquainted with him in prayer can tell that. He could not see where he had been in any way remiss, and God had really given him the "six shillings". To be sure, it was all right. It *must* be all right. Therefore it was the most sensible thing in the world, to go along home singing "Praise the Lord," as usual. Now different is this, from the disposition to complain and be vexed with the weather, or with the way in which things turn out in this world. Meekness indicates trust and faith in God.

Let me caution you again, my friends, that meekness does not, by any means, mean an idle life. You are to have a faith that precludes the possibility of supposing that things ever *happen* in this world, but rather supposes that God is constantly managing them for your own good, when you will let him do so. If you get into the attitude of the child at the table, he cannot manage them for your own good, for you will not accept of such things as are offered. If you sit still, in one sense, God stops too; if you are active and full of energy, so is he in your behalf; or at least so it would appear to you.

Are *you* meek? Perhaps you think you are. Somebody wrote a few days ago, commending my meekness. I knew it was an "awful big" mistake, and I presume some of the clerks who were obliged to read the letter thought so too, for from their comments I judged they considered it the best "joke" of the season.

A little incident that I noticed from the window where I am writing will illustrate where we lack meekness. A good friend of mine draws merchandise up town, with a stout wagon and a span of mules. His wagon was carefully backed up to a car, and he was rolling heavy boxes from the floor of the car to the floor of his wagon. The mules have a way of slowly hitching along a little sometimes; I presume they have learned it just to vary the monotony of standing so much while waiting for their loads. Well, our friend was getting an unusually heavy box into the wagon, and the mules commenced to move along a little. He yelled out to them to "whoa," but they still edged along. One foot was on the car, and the other on the wagon bed, and the great, heavy box was at the most critical point. His feet were growing more and more unpleasantly remote from each other, and the box was nearly off at both ends. In spite of his angry calls to the mules, and before I could scarcely think of going to his assistance, box and man were both down in the mud, just because the poor dumb brutes took a notion to go ahead regardless of orders. Our friend was up in a moment, and with rage in his face, climbed into the back end of the wagon and grasped hold of the lines. When I explain that he had recently signed the Murphy pledge, and had also attended pretty regularly a new church recently started, you may imagine somewhat the solicitude with which I watched the transaction. As he gave the animals a jerk that must have made them repent if they ever do repent of disobedience, he seemed to look about to see how many would hear, should he give way to the storm of anger that seemed to have possession of him, and use the words that Satan, no doubt, was trying to persuade him to use. The coast seemed pretty clear and he berated his team with a loud string of oaths. Alas, frail humanity! In spite of good resolutions he had made, and the good sermons he had heard, he gave way to evil impulses. I do not mean to censure too severely, for I trust God has forgiven it all, ere this. Poor C.! his offense, although a grave one, I can but feel is no worse in God's sight, than is mine when I allow my voice to get into that high tone that it sometimes takes when I get to scolding here about my work. Perhaps my attitude and the tones of my voice are as offensive to those about me, as were his words to myself. I knew it was my duty to talk with him about his bad example, set before his own and other boys in the street, but I knew very well it was not the time to do it then. At some other time, when he was not busy, and was feeling pleasant, he would acknowledge he was wrong, and would give me a promise that would in all probability be kept, to try hard not to swear, whether anybody was around to hear or not. I felt

instinctively, that a fitting time and a fitting occasion are very important things, with almost any of us. I am ashamed to say, it is much so with myself. If one of my hands were to speak to me in a friendly way, in regard to my way of fretting and scolding, at sometime when I am feeling pleasant, I should of course take it all quietly, and very likely thank him, even if he should overdo the matter, and accuse me of some things of which I am innocent. I am very meek at times, and then at times I am not. Anybody can be good when they feel like it, but it is the real heroes (and heroines) who can be meek when they feel like tearing things to pieces. Do you know what the Bible says about him that is able to rule himself? I wonder how many there are of you, whose eyes are on these pages, who will bear rebuking at all times, and under all circumstances. The worst trouble with me is, that I change my mind when temptation comes, like some of the boys who make such strong resolves not to drink any more. Albert used to say that he changed his mind, and concluded he *would* drink, was why he had his backsets. I succeed by watching and praying so as to keep in a spirit of meekness for several days and perhaps weeks, but finally, when a strong temptation comes, Satan persuades me that it is right to talk loud and "decided," and that my business would all be run away with, if I did not get vehement, and let people know "what's what." I hold to this opinion for several hours at a time, and I do not know but I could hold out in justifying myself for several days or longer, were it not for the noon-day service, and our family prayers at home. These "institutions" cramp and fetter one most inconveniently, at such times, and there is no getting around them. I have more than once meditated skipping them, but then I should have to come back sometime, and what then? Satan would recommend in precipitate haste, if I even hesitate, or cast a look of recognition toward him, to skip them forever, and live as other people do, and give up trying to be a saint, when I make such hard work of it. Old memories of skeptical days troop back, and seem for a time to be trying to test the strength of the growth of the new life. The struggle is not what it used to be, for the dear Savior's presence seems all around, and with joy and thanksgiving, I feel ready to exclaim with the psalmist,—

I will love thee, O Lord, my strength. The Lord is my rock, and my fortress, and my deliverer; my God, my strength, in whom I will trust; my buckler, and the horn of my salvation, and my high tower. I will call upon the Lord, who is worthy to be praised: so shall I be saved from mine enemies. The sorrows of death compassed me, and the floods of ungodly men made me afraid. The sorrows of hell compassed me about: the snares of death prevented me. In my distress I called upon the Lord, and cried unto my God: he heard my voice out of his temple, and my cry came before him, even into his ears.

Some of you may say, it is impossible for one to be even-tempered, always alike; in spite of all we can do, we shall have our pleasant moods, and our unpleasant ones; and if anybody has anything to say to us, he must take us when we are in a proper mood to listen to it. There may be some truth in this, but it seems a rather sad thought, that

we must be at the mercy or caprice, I might say, of the hour, or of the circumstances that surround us. It is a sadder thought still, for me to think that I am always to remain thus and that there is to be no improvement. In our better moments we are sorry for these moods, and lament that they will get the better of us; but how many of us are there who, when angry, recognize the fact, and feel sorry that such is the case? Did you ever know any one who had the honesty and the good sense to admit he was angry when such was really the case, and who had the heroism to battle manfully against it? About a year ago I got to thinking of these things, and, recognizing how much I spoiled my influence with those around me, to whom I was anxious at least to set a good example, I contrived a plan of curing myself of my fretful, fault-finding ways. I always knew afterward when I had been in a wrong mood, and I had apologized so many times for it, that I felt apologies were rather losing their weight. I wrote my favorite text on the blackboard,—

It is not by might, nor by power, but by my Spirit, saith the Lord of hosts.

The text answered the purpose for a while, but I finally forgot it, or else looked up at it and concluded it would not work everywhere, and that it was my duty to scold. You see, Satan had me in his power so far, for the time being, that my ordinary good judgment had deserted me. There was one thing that always told me when I was wrong, and that was, that I was unhappy. I am usually happy and cheerful, even when I am called upon to bear trials, providing I do bear them and not get vexed. In my cool and meek moments I formed resolutions; but, under the weight of cares and perplexities, I got cross, and decided that my resolutions were not good, or could not be carried out. I believe I am pretty good at keeping a promise given anybody else, but I do not seem good at keeping promises made to myself. Many a man resolves to stop drinking; but, as I told you, under the pressure of temptation, he changes his mind and decides not to stop just yet. If he stands up in a public gathering of his friends and neighbors, and makes a promise, or signs a pledge, as he would sign a note, he keeps that promise, because he has publicly committed himself. I determined to publicly commit myself, and then, out of respect to this promise, I should be under bonds, as it were, not to scold. I had a talk with my clerks one evening as we closed the day's labors, and told them I wished to get into a habit of attending to all my duties without scolding or getting cross, and, producing a little call-bell I had purchased, I begged them to call me to order by touching the bell whenever I got to talking loudly or vehemently, and that I would promise to stop and remain silent, if I could do no more, until I was able to resume my duties in an ordinary and cheerful tone. No matter what the nature of the business, or what the circumstances, I wished to be helped to rule myself.

Suppose I should be called to order when I was in order. That was just what I desired; in fact, I wished to be tested in every

way possible, to see if I could be so far thrown off my guard, after this public commitment, as it were, as to be unable to preserve a meek and humble frame of mind. One who can not be upset by any amount of provocation is worth his weight in gold almost anywhere in this world, other things being equal, of course. The only thing I feared was that I might some time be allowed to go on until I should be so angry I would utterly disregard the sound of the bell, and throw off all restraint and give up trying. I did not fear this very much, however, for no such thing had ever happened since I had accepted my Savior as my guide.

Did my project succeed? It was never tried, because no one could be found who would accept the task of taking the bell in charge. If you reflect a little, you will see that it was a rather sacred task to undertake. I presume there are many who will think the idea ridiculous, of placing one's self under a guardian, and thereby confessing that he is unable to take care of himself.

And whosoever will be chief among you, let him be your servant.—MATT. xx. 27.

I have several times been taken to task by kind friends because I speak of having so many temptations. There is one class of you who say that, if I had accepted Christ and was fully converted, it would be all peace, and Satan would not trouble me thus. While there is an element of truth in the position taken by these friends, I would suggest that there can not very well be peace at all times, to those who are going to war. Jesus once said he came not to bring peace, but a sword. Can you go with me this minute, my sister or brother, into the saloons of our town, and remonstrate with them upon their sinful ways, and not have your peace disturbed in the least? A good friend of mine, and one who is a minister, once suggested that if I should conquer all of these temptations and have no more battles to fight, I might get proud and uncharitable to the rest of stumbling humanity; whereas, as it now stands, the consciousness of my being a sinner too, kept me from holding my head very high, and helped me when kneeling upon the stone floor in our jail, to say with a real and intense earnestness, "God be merciful to me, a sinner." Paul had a thorn in the flesh, and often prayed to have it removed, but God thought best to give him grace to bear it, and let it remain. Paul was happy in spite of it; yea, happier perhaps after his struggles to conquer it, than he would have been otherwise.

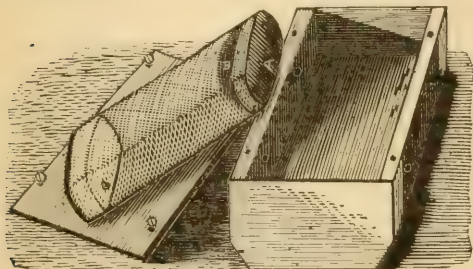
Come near me, O my Savior,
Thy tenderness reveal;
Oh, let me know thy sympathy
Which thou for me dost feel;
I need thee every moment;
Thine absence brings dismay;
But when the tempter hurls his darts,
'Twere death with thee away.

WE omitted to call attention to friend Dadant's advertisement last month, offering Cyprian queens, imported direct, for only \$10.00 each. It seems the prices are to come down still more, for friend Jones has just written the following:

I have received some of the queens, and there will be weekly arrivals after this. You may quote the Cyprian and Holy-Land queens at from \$7.00 to \$12.00. D. A. JONES.
Beeton, Ont., Canada, Aug. 24, 1880.

COMBINED SHIPPING AND INTRODUCING CAGE.

I REMARKED some time ago, that we had the best success in introducing queens, with the introducing cage for cold weather, shown in the A B C. To have two cages however, one for introducing and one for shipping, is rather too much machinery, and so our friend McCord has devised the cage shown below:



D. A. MCCORD'S QUEEN CAGE.

Here is what he says of it:

I send you a queen to-day, by mail, in one of my new cages. It is my own getting up, and I claim all the credit for it. How do you like it?

The cage has proved a perfect success as far as I have tried it. It is beyond doubt the best way to introduce, and I think as strong as can be made for the weight.

D. A. MCCORD.

Oxford, Butler Co., O., July 8, 1880.

The wire cloth cage is but little different from the usual ones, only that it is a flattened, instead of a round cylinder. One end contains candy, and the other a sponge; but I should prefer a bottle to the sponge, as it so soon loses its water by evaporation. For shipment, the cage is set in a block of wood, and the cover screwed on. The wood block is made by ploughing a groove in a long stick, screwing on a strip for covers, sawing them, and covering the ends by tacking on tin. The outer case, of course, is only for shipment; when used in the apiary, and especially for introducing, it is laid aside. The queen is rather safer, right down in the midst of the brood, than on top of the frames, and this wire cage can easily be put down between the combs. I believe the Peet introducing cage, made by friend Nellis, is meeting with very good success, and we would be very glad of reports from those who have used them.

THE SO CALLED "FARIS FOUNDATION MACHINE."

BEE-KEEPERS generally who subscribe for GLEANINGS would be pleased to see that "honor is allowed, to whom honor is due," with regard to the above named machines. By referring to page 109, March No. of GLEANINGS, it will be readily ascertained that the original inventor is Oliver Foster, of Mt. Vernon, Ia. This gentleman has experimented considerably with various machines of the kind since 1878. It really seems that Faris copied Foster's machine in every particular. And you, on page 312, July No., in illustrating, and describing the machine, etc., copied his remarks nearly "verbatim." True, friend Foster said nothing about a dipping

boiler, for he seemed to have been trying to "boil down" his letter; but the machine is essentially the same. Strange that friend Foster has said nothing about it! But I suppose he considers the circumstances to be *nudum pactum*. For my part, I think that friend Root must have forgotten all about it; for, after looking closely at Novice's clear, open face, with Blue Eyes on his knee, one could not bring himself to believe otherwise. But then, just imagine how friend Foster must feel, after losing his home, and some other party credited with the invention of a machine, contrived by himself. Charity, friend Root, charity.

CHAS. S. LARKIN.

Roseland, La., Aug. 20, 1880.

Many thanks, my friend, for your kind chiding. I own up, that I did not know friend Foster had so clearly described the Faris machine, although I remembered, when friend Faris brought it here, that some one had pretty nearly described it. It does certainly look now, as if he simply copied his machine after the description on page 109, March No.; but, on the other hand, Faris *did* make full size L. sheets, and Foster *did not*; or, at least, he did not send me any. Friend Foster has acted nobly, in not saying a word, as you say. I can hardly decide, I confess, what is justly due all of you, for the invention came through so many. More improvements are coming, but I beg of you, dear friends, do not let any unkind feelings get in with it. Bear in mind it is far better to be wronged a little, than to get selfish, and not know it when you are wronging somebody else.

The "Growlery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

ALL THINGS WORK TOGETHER FOR GOOD TO THEM THAT LOVE GOD.

I HAVE honey in the hives, honey in the packing cases, honey in the shipping cases, and my neighbors say I have honey on the brain, but I don't think that is the case, as I place it below that very necessary and useful organ.

Friend Root, I want you to quit abusing our old friend Novice, by claiming that he has such a bad temper. My! but don't he catch "goss" on all sides, if he makes the least mistake? I am of the opinion that if those who call Novice such hard names, charge him with dishonesty, and dream such unkind dreams about him, were striving half as hard to do right as Novice is, there would be less fault finding and more charity manifested than there is in some of their unkind letters. May God speed him in his efforts to benefit others, and may he never grow weary in well doing, is the prayer of your brother and friend.

WM. L. KING.

Benton Harbor, Mich., Aug. 7, 1880.

Thanks, friend K., but the bad temper won't hurt him a particle, or anybody else, if he only succeeds in keeping it perfectly under control, and he has not had a bit more abuse than will be for his own good (probably not more than he justly deserves), if he constantly keeps before him the little text at the head of this article.

I thank you for your kind words, friend K., the more just now, because I have a letter before me that has troubled me a long time; the letter has been answered, but I fear it was not answered in the proper spirit. I have been trying to show you that the spirit Christ taught would enable us to get along pleasantly with almost anybody, or under any circumstances; but it seems as if there are those who have a cool way of saying unkind things that are more exasperating, almost, than direct blows; especially, when we have been trying hard to conciliate. By way of introduction, I would remark that I have often found it best to ask what amount of money would make the matter satisfactory, before going into details, as it often transpires that the amount is only a trifle, and consequently can be easily adjusted. I directed the clerks so to write to this brother; here is his reply:

Your last is received, and so like you, too. You ask questions as of yore. If I should send you a bill for damage, you would doubt it, and be obliged to ask a lot of questions, and keep up a correspondence for another season or two. You know what you ought to do as well as if a bill was made. I have never had anything from you that was as you represented it; not a thing. GLEANINGS does very well, but I have not had 12 Nos.; only 10. You ask why I do not cut your acquaintance, etc. *I have*, you bet. You now say you never said a pound of Italians and a queen would make a swarm in one year. Look in GLEANINGS and you will be obliged to acknowledge that you lie a little, through mistake *perhaps*. Now it is not the loss of what I have been swindled out of, but the way it has been done. Take the pound of *young* Italian bees for an illustration. They were *not* Italians; there was *not* any queen with them; I paid you \$2.60 for them, and as far as you are concerned it was a *fraud*. And this is a fair sample of my deal with you, friend R. Don't call me friend M., as I am not your friend and don't wish to be. Preach less, and do as you agree, and you will do a sight better I think. M.

Below is the reply I directed to be sent him:

I beg pardon, "friend M.", but the subscription clerk says your subscription expired with March No. If it is a mistake please correct us. Your Aug. No. was certainly sent. If lost in the mails how could we make it good unless you told us of it? We send another. You seem to forget that you are one of a multitude so large that we cannot recall these things to mind only by hunting up back letters. If you decline telling us what will make the transaction you allude to satisfactory, I do not know how we can do anything further in the matter.

I presume the most of you will say it was all right, but I do not feel quite satisfied with it. It is true he would not say what amount would make the transaction satisfactory, but he did say that he had paid out \$2.60, and the goods were not as they should be. Complaints that queens are missing has been quite a source of trouble. With the queen cages, we have got over it, by having a clerk who makes it her especial business to look up every queen the last thing before she is mailed, corroborating and checking the man in the apiary. With a pound of bees, this is impossible, and we have no means of inspecting the queen, after the apiarist lets her in with the bees, as he always does the last thing. An imported queen was reported not with the bees last year, and to-day a \$13.00 Holy-Land queen is reported not in

the package. She is not in the hive she was taken out of, for they have queen cells started, and our friend who received her said he looked the bees all through before he opened the cage, and could not find her, and then, to make sure, he let them out one by one on a window, and no queen was among them. Had he sent the cage back unopened, the apiarist would have been responsible for her absence; but, after it was opened, the trouble lay between the one who put her up and the one who opened it. I should dislike to *insist* that *either* one was at fault, so the blame and loss will have to be mine. In the matter above, I do not know who is to blame; but, if I am right, I have always, ever since I have been in the business, replaced every queen that could not be found. Our friend may be mistaken in pronouncing the pound of bees hybrids, as you know, from what has been said on the subject. He says the whole package cost him \$2.60; I do not know whether this includes express charges or not, or whether he made any use of the bees or not, so he is willing to allow anything for them. It seems to me he might just say how much he thinks I should pay him, but, if he declines, I think I will send him the full amount, \$2.60, and tell him if it is too much, to return what he thinks proper. In this way I can feel at peace with him, and everybody else, and should I ever meet him I can put out my hand to him without coloring unpleasantly, at the memory of the transaction, and I can also preserve that spirit of meekness I have talked to you about in the Home Papers, and, like our friend Billy Bray, keep on singing "Praise the Lord, praise the Lord."

Conventions.

Notices of Conventions, condensed so as to occupy not over two lines, will be inserted free of charge.

CONVENTION DIRECTORY.

TIME AND PLACE OF MEETING.

1880.
 Sept. 2.—Southern Michigan Bee-Keepers' Association, at the residence of B. Salisbury, Battle Creek, Mich. Special meeting.
 Sept. 14, 15.—District Convention, composed of Northwestern states, at Chicago, Ill.
 Sept. 14—17.—Bee-Keepers' Convention, in connection with Industrial Exhibition at Toronto, Canada.
 Sept. 25.—Northern Indiana Bee-Keepers' Association, Valparaiso, Ind.
 Sept. 29, Oct. 1.—North American Bee-Keepers' Society, Eleventh Annual Meeting, in Pavilion Hall of the Bellevue House, Cincinnati, O.
 Oct. 20.—Southwestern Wisconsin Bee-Keepers' Association, at the residence of E. France, Platteville, Wis.

THIEVES IN THE APIARY.

I would advise W. Z. Hutchinson to build a barbed wire fence around his apiary, say about six wires high. Thieves will not get over that very easily, and it will not obstruct the view. Bees have done pretty well this season. Late Buckwheat is now in full bloom. W. H. FREDERICK.

Maximo, Stark Co., O., Aug. 27, 1880.

SEVEN TOP TURNIP; SOW IT NOW.

The only honey plant I know of that can be sown now, is the seven-top turnip; and, that it may have a good root to withstand the frost, it should be sown at once.

MR. MERRY BANKS AND NEIGHBOR.

OUR friend Merry Banks has succeeded, by getting up early and working hard, in getting a fair crop of honey, although the season has been the poorest ever known. By careful attention he got each section off the hives, as soon as it was nicely sealed over, and before it had got soiled and dark by the bees walking over it. After the season had closed, he sent samples to several of his friends in the city, asking them to see what offer they could get him for it. Below is his picture after reading one of their replies:



MR. MERRY BANKS READS HIS LETTER.

His neighbor who set his bees against the hog pen (see p. 154, April No.) and who does not believe in books or journals, but brimstones his bees every fall, hearing of the good success of friend M.'s crop, gets his honey ready and sends it to the city without even asking what he will probably get for it. He did not have any letter, but the man who carried it for him has just been in to tell him of the result.



"IT'S TOO BAD, I DECLARE."

It seems friend Given is constantly improving with his presses. See the following:

I think the Given fdn. machine is "Boss." I called in to see Mr. G. while in Hoopston a few days ago, and was surprised to see him making nice sheets of fdn., 8 1/2 x 17 inches, without using anything but water for wetting the plates. Hurrah for the Given Press! J. A. OSBORNE.
Rantoul, Ill., Aug. 1880.

REPORTS are coming from all sides of a sudden and unexpected flow of honey, and, strangest of all, from many points where they do not usually have honey in the fall. In some cases also, it seems to come right in the midst of dry weather. Let us find where it comes from, if we can, and be sure to remember to thank God for it, in any case.

It has been thought hardly expedient to build the addition to our factory just at present, and with a view of helping you toward sending in your orders for next year, during our dull season, we make this proposition: On all supplies for the apiary for next season's work, we will make a discount of 10 per cent during this present month of September. This arrangement may be carried into Oct. also, but will probably be reduced to 5 per cent during Oct., Nov., and Dec. We usually have enough to do, so that there will be no discount so far as we now know, after Jan. 1st. If you order now, you certainly will not be troubled about goods not being on hand next season, and the discount will make it a good investment for you, even if you should take some trouble to get the money. This discount cannot be given on any of the counter goods, as the profits are entirely too close.

SOMEWHAT to my surprise, the \$4.00 watches are giving excellent satisfaction. I do not know as I am so much surprised either, for I knew the movement was good, but I feared the nickle would wear off from the cases, and they would look brassy. I have been urging the makers to put them in solid nickle cases, but I presume it is a pretty hard matter to work so hard a metal into a watch case for so little money. We have a fine lot of them on hand, nicely regulated and tested for time, ready to ship at a moment's notice, for \$4.20. The odd 20 cents is for postage. Each watch is in a beautiful, little case, and a little book explanatory accompanies each. It is a genuine, American-made watch. The \$9.50 watches give excellent satisfaction, when we can get them, but the American Watch Factory at Waltham, Mass., is shockingly behind hand in filling orders. I have several times got so tried, I determined not to advertise them more; but, at about that time, they would send a nice lot of them, and then we lived in hope again. If you, too, are impatient, just say so, and we will return the money.

DRONES IN THE FALL, AND HOW TO GET THEM.

I HAVE told you in the A B C, that it is quite a difficult matter to get drones after they have all been killed off. Our neighbor H. showed me, a few days ago, frames of drone fdn. filled with drone brood from top to bottom, and from end to end; and the best part of it is that it is from his Cyprian and Holy Land queens. The result will be that the Italian queens sent out from his apiary this fall will stand a great chance of being half Holy Land or Cyprian, without any additional expense to our customers. As all his queens are sold to us, I can fill your orders from queens from his apiary almost always, if you just mention it. How did he get his queens to laying so promptly in drone comb? I will tell you. As soon as they were fairly introduced, he took a cake of maple sugar made in a large milk pan, and set it directly over the frames. Maple sugar seems to have a wonderful effect in starting brood. If you want to see an apiary where everything just "purrs,"—weeds too (?)—just pay a visit to neighbor H. He has something over a hundred colonies, but he says he has been so busy this season he has never yet had time to count them.

FERTILIZATION OF THE QUEEN MORE THAN ONCE.

The question is asked in the Aug. *Exchange*, "has anyone positive proof that queens are impregnated more than once?" I have myself seen the same queen come into the hive on different days, with the usual marks of fertilization, and our apiarist witnessed the same thing during the past week. A couple of days intervened between the meetings. Well authenticated cases are on record, I believe, where the same queen has met the drone a third

time. The question has been up, too, as to what the effect would be should she meet a black drone at one time, and an Italian at another time. This doubtless does happen, and may be the cause of a pure queen's suddenly changing to a hybrid, and *vice versa*.

SUPPLY DEALERS.

I AM sorry to say that a number of our supply dealers have been sadly remiss in filling their orders. I certainly ought to have charity for such, and to take their part, but the worst of it is, some have not filled them yet, and refuse to reply or return the money sent. Others are quarreling with those who have been so kind as to send them money. My friends, after you have failed to send goods as you have advertised to do, you ought to be glad to settle with your patrons on almost any terms they have a mind to make. Foot the bill, like men, and then look out what you promise, in your circulars, to do next season. I am taking your part, and telling the friends you will certainly make it all right; now, please see that you do so before our next issue; will you not?

Humbugs & Swindles, Pertaining to Bee Culture.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

MITCHELL.

LAST spring, one of N. C. Mitchell's "Hints to Bee-Keepers" was handed to me. After reading it, I sent money for his "First Lessons," but never received it. A friend of mine (an apiarian) since told me that he sent \$6.00 to Mitchell for an extractor, and never received it.

MRS. O. F. DEAN.

Carthage, Jeff Co., N. Y., Aug. 3, 1880.

My bees are all played out, and I have none now. I registered an order to N. C. Mitchell, of Indianapolis, Ind., in February, and have no bees yet. I can't think why he don't send them along. I ordered 5 nucleus stocks, at \$16.00. I wish he would send them, for I am lonesome without bees. If he is the right kind of a man, I think he will send them soon. I think I look about like Mr. Merry Banks and his \$7.50. I can't help thinking of my \$16.00, and think I would better have ordered of some one I knew.

HIRAM DICKSON.

West Lima, Richland Co., Wis., June 21, 1880.

MITCHELL.

I have been thinking for some time I would write to you, and tell you something about my experience with N. C. Mitchell. I got hold of some of his advertisements, with his terms to agents, &c. After reading his terms and studying about it, I concluded to take an agency for the county in which I then lived. He proposed to give 2 farm rights to make his hive, a lot of books containing all necessary information about bees, and a good honey extractor, all for \$9.00. I sent him a P. O. order for the \$9.00 and got his receipt for it. I think it was a week or ten days before he sent me anything, and some 2 or 3 months before I got the books and papers. He finally sent me all, except the extractor. I wrote to him several times for it, and he was always going to

send it that week or the next, but has never sent it.

When I sent to him for an agency and an extractor, I did not doubt his being an honest man, but have changed my opinion about him since. Of course, I did not try to sell any of his goods for him, and I reason that I was fortunate to come out as I did with him. I am ashamed of myself for having been deceived by him, but it will be a lesson to me in the future.

C. A. JOHNSON.

Somerset, Ky., Aug. 2, 1880.

I am very sorry for you, my friends, but if it will be any comfort to you, I can tell you that you are only 3 losers of a small army of them scattered all over our land.

We have heard nothing from Mrs. Cotton this month, and hope she has been so thoroughly ventilated by the bee journals and other papers, that her business is substantially at an end.

THE "SUNSHINE" CONTROVERSY.

TRUTH STRANGER THAN FICTION.

DEAR SIR:—I made a practical test as to the length of time the sun shines on the north side of things here on the 21st inst. I found that the sun rises here at 5 o'clock A.M., and from that time until 9:12 A.M. it shone on the north side of things. From 9:12 A.M. until 2:46 P.M. it shone on the south side; and, as the sun sets at 7:04 P.M., we have, on the 21st of June, 8 hours and 30 minutes sunlight on our north side, and 5 hours and 34 minutes on our south side. At my suggestion, Mr. J. E. Dean, of Fishkill, N. Y., said he would do the same, and report to GLEANINGS. N. R. FITZ HUGH, JR.

Picolata, Fla., June 28, 1880.

Below is Mr. Dean's report:—

On the 21st of June at Mr. Fitz Hugh's suggestion, I took an observation with the rough implements at my disposal, with the following result:

I found that the sun rose on the 21st inst. at 4.26 A.M., and set at 7.37 P.M.; consequently, it was above the horizon 15h. and 11m., of which time it was north of an east and west line 7h. 6m. I acknowledge that I am surprised at my own figures. I had no idea the sun was so long on the north, but I can see no error in my calculations, and think the result is very nearly correct.

J. E. DEAN.

Fishkill, N. Y., June 23, 1880.

KIND WORDS FROM OUR CUSTOMERS.

The QUEENS are received, and all introduced successfully, I think. I was very glad to get the SIX.

B. F. EARLY.

Unity, Columbiana Co., O., Aug. 2, 1880.

The SIMPLICITY FEEDERS are the most convenient I ever tried. I will order enough soon, so I will have one for each of my hives.

R. STEHLER.

Marietta, O., July 31, 1880.

QUEEN and BEES received all right. Wife says I am entitled to a front seat in right-hand corner of the Smilery, and I surely do feel well pleased. I saw the "old lady" this morning; she was on her nest to lay.

W. C. HOWARD.

Chelsea, Iowa, July 28, 1880.

Thanks for PROMPTNESS. It does one good to know that he can send for a queen, and have her one week from the day the order is written. I wrote for her on the 17th of July, and received her on the 24th.

N. R. FITZ HUGH, JR.

Picolata, Fla., Aug. 2, 1880.

The charges on the Extractor were \$1.30 which was very reasonable. I don't see what makes people growl. Your packing is perfect, and I have never ordered goods of you yet but what they came sooner than I expected.

ELIAS BERG.

Cicero, Ind., July 30, 1880.

I sent for 2, DOLLAR QUEENS, July 20th, and received them on the 22d. I introduced one the 24th, and the other on the 26th. Both were in good condition when received, and are doing well. Allow me to commend your promptness.

S. W. STUTEN.

Adamsville, Muskingum Co., O., July 29, 1880.

Thanks for PROMPTNESS. I received Price List, GLEANINGS, and A B C 24 hours before I expected them. My friend is so highly pleased with A B C that he cannot express his pleasure and still has some suspicion that its price is below cost.

Cleveland, O., Aug. 2, 1880.

N. ANSON.

THE \$4.00 WATCHES.

I have had the \$4.00 watch running a month, and it gives entire satisfaction, keeping tip-top time.

Please find P. O. order inclosed for \$9.90, for which send me 2 more, four-dollar watches, and 2 gold pens, one with no holder, the other with gold-plated holder, both Morton's, ladies pens. W. D. LOVELAND, Lawrence, Mich., Aug. 14, 1880.

Good morning, brother Root. I have just come in to get a few more SMOKERS. This is my fourth time after a half dozen, so you can see they are a poor thing to keep. A man came along the other day and took the one I was using, and I have to do without till I get this lot; so you see I will be watching the express office soon. I have just finished taking off 200 nicely filled section boxes. JAS. PARSHALL.

Union Valley, Nodaway Co., Mo., Aug. 6, 1880.

BUCKWHEAT; SILVER-HULL.

That peck of silver-hull buckwheat bought of you is just splendid. It is now in full bloom, and bees are on it, I believe, night and day.

C. SEVENER.

Mount Morris, Mich., August 2, 1880.

[Well, I declare, friend S., if you have bees that work on buckwheat in the afternoon, you are ahead of the bees, and buckwheat too, that grow here. I am very glad to hear it pleases you.]

The A B C and SMOKER were carefully and securely packed and came in nice order. The smoker works finely; I only wish I had had it in May. The A B C is a wonder to the whole family as well as myself. Such a book as that for \$1.25! We cannot cease to wonder and admire. It is eight years this spring since a swarm of bees was given to me, when all I knew of bees was they would sting, and could make honey.

F. A. MOORES.

Newburgh, N. Y., July 28, 1880.

TRIALS AND VEXATION.

Indeed you have lots of vexations and trials, but the best of all is, you know where to go to find rest and peace. God, who takes notice of little sparrows, will surely help all who trust him.

One day last week I came into my room all tired out, and saw GLEANINGS on the table. On the first page I opened to was the picture of Novice and Blue Eyes. I was so pleased, I forgot I was tired, and ran into the garden to show it to Laura, who was working in the strawberry bed. So you see it gave me rest.

Mrs. A. B. HODSDON.

Corning, Mo., Aug. 10, 1880.

I received the BEES in good order, put a frame of bees in the hive, and was all ready to let them out. It was about 10 o'clock, A.M.; heat up to 108°; didn't know how to begin; finally took the wire cloth off, and shook them into the hive. All worked like a charm. We closed the hive, supposing all to be right. In about 20 minutes, out they came, swarm like, and clustered on an apple-tree limb. Now, if you could have seen me, you certainly would have laughed. A few moments before, I was high up in Smiley; then, down in the cellar, filled with Blast-ed Hopes, and "off for Kansas." We opened the hive and shook them in again; they then gave better indications of being satisfied. Next morning, we wanted to see how they were getting along, and opened the hive. We found them all clustered nicely on the comb; took the comb or frame out, and then got sight of the mother bee. An old friend, a

bee-man, exclaimed, "I have seen many queens, but this gets away with all that I ever saw."

WRIGHT LANCASTER.

Washington, Utah, July 24, 1880.

THE FARIS FDN. MACHINE.

I take this moment to thank you, for publishing the Faris method of making fdn. It has already saved me more than the cost of GLEANINGS, and will save me \$10.00 per year hereafter. That you may prosper abundantly in all your noble work I shall ever pray. And I know you will prosper, for it is not in human hearts but to respond to such disinterested, self sacrificing regard for the prosperity of others; for you must have known that that publication which cost you more than \$150.00 would cut off a large amount of your own business. When such things, so scarce in this world, exhibiting as they do faith in God and right, are seen, every human heart responds, and what you loose in one direction you gain in another. More than that, I know you will prosper because God is on the side of every man who acts squarely up to his sense of right, when it requires a sacrifice.

I made one of the dipping casts and a vat according to the plates in GLEANINGS, of the size of my frames, only I made the vat, or outside box, smaller, and with a tin bottom, and it did not leak. I made it smaller and higher, and it does not spatter at all, and makes the best fdn. I have ever used. But I found the smallness of the box interfered with straps on the end of the frames, and so I put one strap on the front of the frames. But when we came to use it, wife, who always helps, said, "Why not fasten one end of the strap with a button, and have the strap out of the way while you remove the sheet of fdn.?" And so I made a button hole in the upper end of the strap to fit a small nail head driven into the top of the upper frame. Now it is all right; we can lay it open on the bench to remove the sheet, etc.

H. V. TRAIN.

Mauston, Wis., July 29, 1880.

100 COLONIES

Black and Hybrid Bees for sale, in 8 and 10 frame Langstroth Hives, 50 in Simplicity, and 50 in Grimm portico, all two story and painted; owner going West. Price \$5.00 each on yard. Lots of 25 delivered at depot or dock free of charge.

9d JOHN Y. DETWILER & CO., Toledo, Ohio.

Dollar Queens from Imported

mother, and Foot-Power Circular Saws for sale, by

9 H. SMITH, New Hamburg, Ont., Canada.

50 FINE VISITING CARDS, no two alike, with name neatly printed, 10 cents, post paid.

9d M. L. DORMAN, Sinclairville, N. Y.

100 XX ENVELOPES, with business card neatly printed, 50 cents, free by mail.

9d SPECTATOR PRINTING HOUSE, Sinclairville, N. Y.

OLM COMB FOUNDATION MACHINES, from \$15.00 to \$35.00. Sample and Circular sent free on application. Address,

9tfd C. OLM, Fond du lac, Wis.

COMB FOUNDATION MACHINES

for sale at 3½¢ per sq. inch. Comb fdn. 35¢ per lb., over 5 lbs.; under 5 lbs., 40¢ at the factory.

9 JOHN FARIS, Chilhowie, Smythe Co., Va.

OH! SEE THE CHANGES

made in W. Z. Hutchinson's advertisement, page 454.

Mollie Heath Honey Plant.

We have at last succeeded in getting some seed of this beautiful plant, which is described on page 148 of GLEANINGS for 1879. The seed is flat and bean-like. As we have but a few, in order to make them go around, we offer them postpaid, at 5 cents each. To Canada, 2 cents extra.

A. I. ROOT, Medina, Ohio.

Contents of this Number.

A Life Picture in 2 Chapters	470
Arkansas Bees, some Facts	471
A Visit from Friend Taylor	478
A Visit to Jas. A. Simpson's	478
Apilary	468
BEE BOTANY	478
BEE ENTOMOLOGICAL	482
Bee Stings and Rheumatism	472
Bee Hunting	468
BLASTED HOPES	467
Box DEPARTMENT	479
California Bee-Keeping	476
CONVENTIONS	459
Different Kinds of Frames	467
Early Amber Sugar Cane	464
ENTOMOLOGICAL	482
Friend Keran's Story	481
GROWLERY	469
HEADS OF GRAIN	483, 491
Honey Crop in Western	475
Honey, Extracted vs. Comb	477
KIND WORDS FROM OUR	459
CUSTOMERS	459

INDEX OF HEADS OF GRAIN, NOTES AND QUERIES AND OTHER SHORT ARTICLES.

Abandoning Mania	493
An Agreeable Surprise	490
Another from Blasted Hopes	484
Ants Guilty of Stealing	486
Eggs	486
Ashe, Missouriensis, a near	482
Relative	482
Balling the Queen, is it	483
Dangerous?	483
Basil	465
Bee Mole and Italians	494
Bees and Confectioneries	494
Appearing Dead, but	464
Chilled	464
A Working Colony	487
without a Hive	487
Does disturbing in Winter	478
Affect Consumption	478
of Stores?	478
Do They Steal Eggs	489
From Other Hives?	489
Italian, Working on	484
Red Clover	484
Just Hatched, three	484
Bands on	484
Making Them Accept	487
A Queen	487
Must Those from a	474
Pure Queen be all	474
Alien?	474
Book "Larmin" vs. Box	483
Hives	486
Brood, too Much in a Hive	491
Convention Report	491
Conventions	494
Cornels	465
Drones, black, How to Get	488
Rid of	488
Color of	493
Eggs, More than One in a	485
Cell Hatching	485
Eggs Disappearing	488
Feed, What for Winter	489
Feeding Back Soured Honey	493
Idn. Dipping	486, 494
From 4 to 20 by Natural	494
Swarming	494
Gathering Seeds of Honey	473
Plants	473
Giant Hyssop	478
Giving Countries	487
Heart's Ease as a Honey	481
Plant	481
Helianthus	466
Heliotrope as a Hon. Plant	493
Honey, a Sudden Flow of	490
by the Cupful	491
for Sale	483
from Smartweed	484
hoarhound	489
in September	494
storing all above	478
Honor to whom honor is due	483
Horsemint	493
Indian Hemp or Swamp	480
Milkweed	479
Indian Plantain	486, 488, 490
Introducing	486
Locust Grove, How to raise	492
Mallophora Bomboidea	482
Matrimony Vine, Vulgare	479
Nucleus, 3-Frame, Pretty	484
Good for	484

Honey Plants, unrecognized	465
How to Utilize a Pound of	476
HUMBUGS AND SWINDLES	471
Meeting between the Drone	476
and Queen	476
Modern Bee Culture, what	480
an Authorless thinks of it	480
NOTES AND QUERIES	492, 494
Notes from the Banner	463
Apilary	463
Our Own Apilary, Factory	472
and Honey Farm	472
Packing Hives for Winter	477
on the Tenement Hive	477
Idea	477
Queen Rearing, Friend Jef-	474
frey's Idea about	474
REPORTS ENCOURAGING	491
SMILERY	475
The A B C Child that Grew	482
so Fast	482
Useful Articles for a Small	499
Amount of Money	499
HONEY COLUMN	461

Propolis, Where from	484
Queen Cells, Selecting the	478
Cells on Drone comb	477
grafted	492
by the gross	492
great No. from	488
not always an	488
indication of Queen's	485
Queenlessness, How to tell	478
by appearance of combs	478
Queens lost in Mail	474
How far do they go	474
for fertilization?	474
Clipping the Wings	492
and queen cells, judg-	474
ing of them by their	474
looks	474
that keep Laying	492
Daughters in the	492
hive with them	492
what to do when they	494
get away	494
Two in a Hive	491, 493
That won't lay	490
Spurious	489
Dollar, Reared late in	484
the Fall	484
Flying	492
How to Prevent from	484
flying when Intro-	484
duced	484
How late in life can	486
they be fertilized	486
and became a pro-	486
lific Queen?	486
How young can they	487
lay?	487
Italian, Are they	486
sometimes black?	487
being fertilized twice	488
Rape Culture, Remedy for	490
black Flies	490
Reports	485, 487, 488, 490, 492,
	493, 494
Rocky Mountain Bee Plants	487
Scabish or Scabiosa	480
Sections and Separators	475
Simpson Plants, Transferring	473, 484
Smokers, Bee, vs. Tobacco	493
Fuel for	489
Soil for Simpson and Spider	493
Plants	493
Spider Plant Outdone	473, 490
Plants in Different	473
Swarms Absconding	486
Swarming Flag	483
The Peet Cage	494
Thieves in the Apilary	485
Triumphing Under Difficul-	491
ties	491
Twenty-two Days in the	494
Cell	494
Verbena Hastata or Blue	480
Wintering 3 Colonies in 1	485
Chaff Hive	485
Working Qualities of Dif-	494
ferent Stocks, Differ-	494
ence in	494

Conventions.

Notices of Conventions, condensed so as to occupy not over two lines, will be inserted free of charge.

CONVENTION DIRECTORY.

TIME AND PLACE OF MEETING.

- 1880,
Oct. 5.—Cortland Union Bee-Keepers' Association, at Cortland, N. Y.
Oct. 8.—Livingston County Bee-Keepers' Association, in the Court-house at Howell, Mich.
Oct. 14, 15.—Western Illinois and Eastern Iowa Bee-Keepers' Society, at New Boston, Ill.
Oct. 20.—Southwestern Wisconsin Bee-Keepers' Association, at the residence of E. France, Platteville, Wis.

30 COLONIES ITALIAN & GOOD HYBRIDS

AND

70 COLONIES COMMON BEES,

In 1½ and 2½ story Langstroth hives, and in 2 story Simplicity hives, with broad frames above and tin separators attached; also 100 frames Worker Comb made from foundation. \$4.50 for 1½ story Langstroth with common bees, and honey plenty to winter on. \$5.00 to \$5.50 for 1½ story hives with Hybrids and Italians. Correspondence solicited.
10d A. FAHNESTOCK, Toledo, Ohio.

KIND WORDS FROM OUR CUSTOMERS.

I think that the 24 lb. SCALE is a perfect jewel.
W. P. CLEMENT.
Monticello, Wis., June 21, 1880.

Friends who subscribed for GLEANINGS through me, are wild with delight.
FRED V. SARGENT.
Hubbardston, Mass., Sept. 11, 1880.

In 60 hours after we started our order, the queen was at our office. Accept our thanks for your PROMPTNESS, also for the quality of the QUEEN.
MRS. W. H. CARPENTER.
Springboro, Ohio, Sept. 20, 1880.

For the enclosed forward by mail DOUBLE ENDER FILLS, and one HANDLE for same. These files are the finest I have ever used. There is almost no wear out to them.
JAMES A. PRITCHARD.
St. Gabriel, La., June 12, 1880.

I received the BEES all in good order, and put them in a new hive, giving them two combs of honey, and two of worker brood. They carried in pollen two hours after I opened them.
J. S. KAUFFMAN.
Arcadia, Ind., Aug. 23, 1880.

THE TRY SQUARE, BRAD AWL, and soldering outfit came all right, within less than a week after they were ordered. I am well pleased with them. The try square is a handsome tool; much better than I anticipated.
W. C. STEVENS.
Lawrence, Kan., Sept. 8, 1880.

GLEANINGS AS AN ADVERTISING MEDIUM.

I receive more orders from advertisements in GLEANINGS than from any other paper I have advertised in. Honey season in this section is very poor. Many colonies will have to be fed to live over. Dry weather all the season was the cause.
H. H. BROWN.

Light Street, Pa., Sept. 17, 1880.

The WATCHES and PENS are received, and in fine order. I am much pleased with them, and with your punctual way of doing business. Your holders and pens are so much nicer and cheaper than we can get them here, that I think I can obtain several orders as soon as I start to school in the village.
W. D. LOVELAND.

Lawrence, Mich., Aug. 25, 1880.

You will notice, on the back cover, an advertisement of POCKET KNIVES, and, even if you do not care to buy, I think it will pay you to send for their circular. One of the firm, Mr. Maher, has written a most excellent book for young men, or old ones either, for that matter, entitled, "On the Road to Riches." We shall add the book to our list, and can mail it to any address, for \$1.00.

Send to my address *three* of your 10c. AMERICAN KNIVES. Charlie, Ted, and Juttie have saved this to get them each a knife. J. P. WEST.
Wells, Minn., Sept. 7, 1880.

The shipment of QUEENS AND BEES arrived yesterday. To-day, the quiet little fellows are making examination of their surroundings. Thanks. Permit me to congratulate you on the safe and satisfactory manner in which you pack and ship bees. Evidently you have an honest and efficient mechanic somewhere about your establishment. D. P. LANE.
Koshkonong, Wis., June 18, 1880.

The "A B C OF BEE CULTURE" has arrived, and I am more than pleased with it. It was packed, or mailed, in the very best manner, came in good condition, and has been read with great pleasure by all the family. It is full of valuable information for all who love bees, and whoever buys it has more than his money's worth. Many thanks. FRED W. TOWER.
Lexington, Mass., Sept. 9, 1880.

I deem your COUNTER GOODS a boon to all having use for such articles, and I hope they will be a permanent feature of GLEANINGS. Could you not afford us a complete list (including all additions and changes) each month? It would be much more convenient for intending buyers. E. H. MARSH.
Danbury, Conn., July 24, 1880.

[Many thanks, friend M., but I am afraid our readers do not all feel as you do about it. It would likely get to be monotonous, and would occupy a great amount of space. I have put it in this month just to show you, and because we have fewer advertisements at this season of the year than usual, leaving us more room for other matter.]

I was disappointed in the A B C book that I got of you: it turned out so much better than I expected that I am perfectly delighted with it. It gives so much information in so plain a manner, that I can understand it easily; and it is arranged in such a convenient way, that I would not be deprived of it for ½ doz. swarms of bees. I am going into the bee business, having bought my first swarm of bees, in an old box hive, one year ago last spring, and knew nothing about bees, until I got your A B C, only that they could sting a person by a very little persuasion. I have now increased to 5 swarms, and have taken 50 lbs. of surplus honey. WM. B. JONES.
Manchester, Iowa, Sept. 6, 1880.

I must tell you how pleased I am with the new cold-blast smoker. I have used one of the old hot-blast for 3 years, and when ordering the new one I thought, if it was as good as the old one, I should be well satisfied; certainly it *could not be better*. I have used the new one only a few times, but enough to know that it is *better than the old*. It is the "boss." It beats them all. I use the largest size, and can't conceive how people get along with those little things. When extracting, mine never goes out from the time it is lit until I am done work for the day. For fuel I use cobs made fine. We have had a fair season so far. Bees are just beginning to work on fall bloom. Forty stands, with an extractor, have paid for my labor \$100.00 net, not counting 8 or 10 gallons of honey used by my brother and myself. H. A. HARRIMAN.
Grand Lake, Ark., Sept. 2, 1880.

I see by Sept. No. of GLEANINGS that a brother bee-keeper sent for a queen and got it in a week. I can beat that. I ordered two \$1.00 queens June 17th, and received them June 21st. One began laying June 23d; the other, June 25th. I had no trouble in introducing, and they are beauties too. Thank you for your promptness. I have 18 stands, which are doing well, and making plenty of surplus honey. If you want a thing promptly, order of friend Root. Give us more of friend Merry Banks. I miss him in GLEANINGS. I could not get along without GLEANINGS. Will bees make honey from radish blooms? They seemed to be at work busily on the blooms in our garden. JOSEPH E. JEWELL.
Shell Rock, Ia., Sept. 15, 1880.

[Bees do work on radishes, and if there was a large field of them, as in a market garden, it would doubtless rank fairly with its near relatives, rape, turnip, cabbage, etc.]

I have read Langstroth, Quinby, King, Mrs. Tupper's "Bees and Their Management," and the first ideas of bee-keeping I ever received, I got from a pamphlet by N. C. Mitchell. I considered all good as far as they went, and thought I knew all about bee-keeping, but the A B C gave me many ideas I had never thought of, which common sense ought to have suggested. It far surpasses all works I ever read, and is so plain and simple that a bee-keeper, "though a fool, need not err therein." Every bee-keeper who expects to succeed, should make it his "*vade meum*." S. C. FOX.
Marysfield, Milam Co., Tex., Aug. 2, 1880.

EXTRACTOR was all right side up with care. I think you are getting as expert in packing your goods for shipment, as you are in handling bees. I have just put the extractor to a practical test, with a few combs from some of my Italians, on which it performed just as all the extractors that I have been fortunate enough to order of you have done, with perfect satisfaction.

The SCALES were all right too, and I must say right here that it is not reasonable that such an article can be manufactured for so small an amount. Bees are doing well in this community at present, but there was great mortality among bees last winter and spring. Most of the bees here did not make enough last season to winter on, and people having bees did not take proper care to feed them. The result was they died. Bee culture is comparatively dying out in this country. BEN F. CLARDY.
Rolling Home, Mo., July 6, 1880.

The EXTRACTOR which Geo. Baker and myself ordered was received without a scratch; thanks for good packing. Expressage, \$1.60, was reasonable. It was not a great while before we were trying it. We were new hands at the "trade," but succeeded very well. As our homes are near, we help each other in the bee business, so it makes our work lighter. George has at present 9 colonies, and I have 10. The surplus crop was a complete failure up to August, but since then has been very fair. There was an abundance of white clover, but it did not yield honey. The bees would not work on it to any extent. Bees have built up very well, but there has been very little natural swarming. George started this spring with 5 colonies, and increased to 9, by dividing. All are now in good shape. He has taken 108½ lbs. extracted, and 4 lbs. comb honey. I did not divide any, as I was so busy with my work, and have not given them the attention that I should, but have taken 123 lbs. extracted, and 40 lbs. comb honey. If the flow continues for a week or two, I will extract from them again, as they are filling their combs very fast. This season we have introduced 12 Italian queens, all of our own raising, without the loss of one. We will winter all in one-story, chaff hives, with chaff cushions over frames. We tried them last winter, and like them very well.

From one of your A B C class,—
Lewisville, Ind., Sept. 6, '80. DAVID C. SMITH.

For some time I had wondered what sort of a looking customer Mr. Root must be, to stand all the abuse and slander, and go through what he has to, and all at once on comes Mr. Root and "Blue Eyes." You can't think what a satisfaction it is. Some time, if you should see your humble servant, with his face all smut, and with sweat streaming down his eyes and nose, you might say, "Can any good thing come from such an object?" I say, "Yes, when God is in the heart." Smut washes off, and leaves the handiwork of God for his own glory.

Bro. Root, the gold is never brought out until the rock has had a dreadful sight of pounding. So with a Christian; you can not tell how much toil and hardship you can stand until you try. God's promise is to those who are honestly trying to obey; but, if we only put on style, and try to deceive by an empty profession, we are doomed to disappointment, and ruin will be sure as our reward. I am no bee man, but my son takes great interest in GLEANINGS, and has taken to reading "Our Homes." I hope others will do the same, and receive much good. I am aware your time is valuable, but a little encouragement will hold up your hands to fight for good in the fight for life,—eternal life. J. B. GOEWY.

Langsburg, N. Y., Sept. 3, 1880.

[Many thanks, my good friend. Such words do hold up my hands more than you can think. Never mind the sweat and dust; God knows what is underneath, if the world does not.]

I became a disciple of Mitchell in 1878, through his circulars. I sent for his books on bee culture, and I think there is a good deal of valuable information in the same. In perusing his books I found that he gave A. I. Root some pretty hard thrusts, and I made up my mind to send for that far-off-printed pamphlet, GLEANINGS. Upon its arrival I was agreeably surprised to find it not only instructive but very interesting; so much so that, upon looking over its club rates, I induced a friend to join with me, and I became a subscriber to the four principal bee journals of America, and I have gained a world of information by so doing. Wishing to become better acquainted by way of testing your queens and bees, I sent for some, and the bees and dollar queens that you sent me prove A No. 1. With the frames of comb, I have built up as fine Italian stands as can be found anywhere, with a working quality unsurpassed. The queens are beauties, and the quantity of their brood is legion. The bees are all marked in a beautiful and uniform manner, and it is with pride that I sit and see them work, while the hives of blacks by their side are sluggards. I am endeavoring to Italianize all of my bees, and by next season will accomplish it I think; at any rate, if you send me a few more such queens, I know I will. I have also received some very fine queens from J. A. Ward, a resident of your State.

Let me say of Root again,
He's not deserving of that stain
That some are branding to his name.
Let slanderers slander to your face;
The queens you sent were true to race.
Let no one, then, that name impute,—
Our honest friend, A. I. Root.

And now, in parting, pray do not
Forget a friend of Guyardotte;
And if a queen should *bee* required,
You'll send him one to *bee* admired.

P. S., the ladies' letters always close;
Why not I? and here inclose
A dollar to you, my Christian friend;
A queen for if you'll please to send.
A tested one I can't expect.
Though such a one I'd not regret.
Please send me one you think would *bee*,
With little doubt, one of purity.

The clerk who mailed the queen replies as follows:—

I, for one, am happy to say
That, upon the appointed day,
A "dollar" queen to you we send,
My warm and *very* poetical (!) friend.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

I have 2 bbls. of honey to sell, and will take 9 c. per lb., barrels thrown in. This is a nice article of White Clover and Basswood Honey, put up in new, painted barrels, and will be delivered on board cars at the above price. WM. H. KING.

Newtonville, Buchanan Co., Iowa, Sept. 15, 1880.

CITY MARKETS.

CINCINNATI.—Honey.—Scarce, both Extracted and Comb; demand slow. We pay 10c per lb. for Extracted Clover Honey, and 16c for choice white Comb Honey.

Bee-wax.—Is 20@25c per lb. on arrival.

Cincinnati, O., Aug. 21, '80.

C. F. MUTH.

CHICAGO.—Honey.—Is quite plentiful on the market now, and prices have had a tumble. Comb Honey, fair to choice, brings 15@17c; Dark 10@12c. Extracted Honey, 6@8c.

Bee-wax.—Fair to choice, 20@23c.

ALFRED H. NEWMAN.

972 West Madison St., Chicago, Ill., Aug. 24, '80.

NEW YORK.—Honey.—Best white Comb, small boxes, new, 17@20c; fair, ditto, 15@16c; buckwheat, ditto, 11@13c; large boxes, 2c per lb. less. White Extracted, 8½@9½c; Dark, ditto, 6@7c. Southern strained honey, 85@95c per gal.

Bee-wax.—23@24c.

A. Y. THURBER.

158 Duane St., New York, Aug. 26, 1880.

ST. LOUIS.—Honey.—We quote Comb Honey scarce, and considerable inquiry at 19@21c for nice, bright clover, in 1 and 2 lb. sections, and 15@17c for darker grades in sections. Large packages comb not wanted at over 10@13c. Extracted in little demand at 7@8c for medium, and 8 to 11c for choice.

Bee-wax.—Selling at 22 to 23½c.

July 22, 1880.

R. C. GREER & Co.

No. 117 North Main St., St. Louis, Mo.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st. If wanted sooner, see rates in price list.

*E. W. Hale, Wirt C. H. W. Va.	1-12
*A. I. Root, Medina, Ohio.	
*H. B. Brown, Light Street, Columbia Co., Pa.	10tf
*E. M. Hayhurst, Kansas City, Mo.	1-12
*Paul L. Viallon, Bayou Goula, La.	10tf
*F. J. Wardell, Uhrichsville, Tusc. Co., O.	12-12
*D. A. McCord, Oxford, Butler Co., O.	2-1
*S. F. Newman, Norwalk, Huron Co., O.	10tf
*I. R. Good, South West, Elkhart Co., Ind.	5-10
*J. M. C. Taylor, Lewistown, Fred. Co., Md.	6-11
*B. Marionneaux, Plaquemine, Iberville Par., La.	55
*Ila Michener, Low Banks, Ontario, Can.	5-10
*Jas. P. Sterritt, Sheakleyville, Mercer Co., Pa.	6-2
*W. S. Canthen, Pleasant Hill, Lan. Co., S. C.	6-10
*J. H. Reed, Orleans, Orange Co., Ind.	7-9
*J. McGonnell, Waterford, Erie Co., Pa.	9
*C. R. Curtis, Selma, Dallas Co., Ala.	10

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.

P. L. Viallon, Bayou Goula, Iberville Par., La. 10tf

T. F. Wittman, 4109 Hutton St., Phila^a, Pa. 10tf

S. F. Newman, Norwalk, Huron Co., O. 10tf

Sprunger Bros., Berne, Adams Co., Ind. 3-2

J. F. Hart, Union Point, Greene Co., Ga. 4-3

Nichols & Elkins, Kennedy, Chaut Co., N. Y. 6-11

M. S. West, Pontiac, Oakland Co., Mich. 8-1

COMB FOUNDATION MACHINES

for sale at 3½c per sq. inch. Comb fdn. 35c per lb., over 5 lbs.; under 5 lbs., 40c at the factory.

JOHN FARIS, Chilhowie, Smythe Co., Va.

THE LAST AND BEST OFFER!

See W. Z. Hutchinson's ad on page 508.

10d

FOR SALE at a bargain, a Barnes Saw complete, almost as good as new.

A. B. WEED, Detroit, Mich.

10

75 Bagg St.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, OCT. 1, 1880.

And Isaac's servants digged in the valley, and found there a well of springing water.—GEN. xxi. 19.

WHAT do you think of our new cover? It was designed by F. A. Whiting, Dunellen, N. J.

ARE your bees all provisioned for winter? If not, see to it at once, and do not think of undertaking to feed them along during the winter.

A NEW structure of brick, is being builded almost right under the window where I am writing, and it is being made expressly for the counter store, as shown on another page.

NEIGHBOR H. is going to the convention too. If you should hear him and Mr. Jones talk bees, you would think of what Will M. Kellogg says about his visit to friend Simpson. We are now waiting for the train.

GOODS ordered during this month, for use another season, in the apiary, will be furnished at a discount of 7½ per cent, providing you mention this paragraph when you order, stating the order was made with this end in view. This offer includes no counter goods.

WHILE I write, we are honored with the presence of Mr. D. A. Jones, and he and neighbor H. are now discussing the probability of my being mistaken in saying the Holy Land and Cyprian queens differ so little from Italians, that scarcely any one would note it.

WE have to-day, Sept. 28th, 5,015 subscribers. I thank God for having given me so many kind friends, and I thank you too, for the support and encouragement you have given me. As this is comparatively a dull season for advertisers, our advertising rates will not be advanced to 25c. per line until next year.

CIRCULARS RECEIVED DURING THE PAST MONTH.

A very neat, small, two-leaf circular from Jas. A. Nelson, of Wyandott, Kansas, advertising Comb Fdn. only. On the same is also a short advertisement of Queens and Nuclei, bred by E. M. Hayhurst, Kansas City, Mo.

C. H. Deane, Sr., of Mortonville, Woodford Co., Ky., also sends us a card circular, offering Hives,—Star Chaff and Simplicity.

SUNDAY-SCHOOL BOOKS FOR ONLY 5 CENTS EACH.

This would be nothing very singular, were it not for the fact that these 5c books are precisely the same that have been sold for from \$1.25 to \$1.50. You know what I have several times said about the way books were sold, compared with the price of other things, and that staple books of all kinds should be sold at a price not to exceed a dollar a lb. These books are sold for about 40c. per lb., at retail, and they are printed on pretty fair paper at that. Of course, they are in paper covers, but they are ornamented so as to be quite pretty and attractive.

One secret of their cheapness is that there are no blank leaves, wide, useless margins, and double-leaded lines, that we find in most of our books. Best of all, these books are all good and wholesome ones for the family. If there is one family among our readers, which is short of reading matter for the children, or even grown-up ones, it will do you good to see one of the 5c. Sunday-school books. Even if they do nothing more, I hope they will take the place of the cheap, dime-novel literature. The list now comprises about 53 different books, a list of which will be found on the cover of each. You will find them on our 5c counter list.

THE price of the Cyprian and Holy Land queens, for the present, will be just double the price of Italians of the same grade. Of course, in all likelihood, they will be crossed with Italians, for we have no means of insuring fertilization by their own drones, even if we desired so to do. Mr. Jones claims that they breed later in the season than Italians do, not stopping at all for a frost, and neighbor H. had decided pretty much the same, before friend Jones came here.

Friend J. also says if there is an Italian colony that can rob a Cyprian or Holy Land colony, that is the colony he wants to buy. I guess he is right in this, from what experience I have had with the Holy-Land bees.

My experiments several years ago with paraffine, cerosine, and other substances that were suggested as a substitute for beeswax in making fdn., at a time when we all supposed a patent forbade the use of wax, were given so fully and publicly, that it never occurred to me, that anybody would ever accuse me of selling such fdn. for any thing else than it really was. In regard to friend Betsinger's offer of \$50.00 for a sample of brood comb showing that the brood is in no way affected by wired combs, I am sure we have hundreds of bee-keepers who will most willingly show him his mistake, but I do not believe we have a single one who would take his money for so doing. Have we, the bee-keepers of our land, so little faith in each other, that we are obliged to settle things by wager, or have we known each other long enough, to have a loving confidence, trust, and charity, one for the other?

PREMIUMS FOR SUBSCRIBING EARLY.

I have told you, in former years, how much trouble it is to take down our subscription list, and re-arrange it, after the first of January, and also that the trouble is not in the labor alone of doing this, but in the liability of getting your names up wrong next time. We have got them all right now, for we have tested them during the year past. Now, to avoid the necessity of going all over this again, that is, that we may keep your names in our type just as they are now, I make the following proposition:

Every subscriber who remits us \$1.00 during the present month of Oct., for GLEANINGS for the year 1881, may have his choice of any article on the 15c. counter, providing you mention it at the time you send the dollar, tell us which article you choose, and send along the postage.

All who remit during the month of Nov., may have any 10c. article, under the same conditions.

All who remit during the month of Dec., may have any 5c. article under the same conditions.

We offer no premium for any single subscriber after the first of Jan.

To avail yourself of these offers, you must comply with the conditions named. Do not tell the clerks to pick out your premiums themselves, and do not omit the postage; for we want the whole business so that we can go right along as rapidly as we can handle the goods, just as we did with the counter store on the fair grounds.

These offers are for single subscribers for GLEANINGS; we cannot afford it on those that are sent in at club prices. Any of the articles on any of the counters may be secured by counting such name at the price given.

GLEANINGS IN **BEE CULTURE.**

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

OCTOBER 1, 1880.

No. 10.

A. I. ROOT,

Published Monthly.

Publisher and Proprietor,

Medina, O.

Established in 1873.

TERMS: \$1.00 Per Annum, in Advance; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75c each. Single Number, 10c. Additions to clubs may be made at club rates.

NOTES FROM THE BANNER APIARY.

No. 11.

ATTENDING FAIRS.

ONE year ago I attended our county fair. I took considerable pains to make the "af-fair" a success *financially*. I had been writing bee-keeping articles for our county paper, and just before the fair there was an "item" in the local-news column, which informed my friends that I would make an apiarian exhibition at the coming fair. I obtained board at low rates at a private house, and paid for it in honey; and the man who carried myself and "traps and calamities" to the fair was paid in "dicker;" in fact, I left no stone unturned to make the enterprise a profitable one. I believe I even found myself *imagining* how I should tell GLEANINGS all about it, and *perhaps* "brag" a little about how much money I made. How did I expect to make anything? Well, read on and you will see. I exhibited two Simplicity hives filled with combs, an extractor, three full-sized frames filled with fdn. in different stages of its "growth," honey in one-pound sections, extracted honey, grape sugar, chaff cushions, Italian queens and bees, sample copies of the different bee-papers, A B C books, and cold-blast smokers; and I expected to make some money by selling books and smokers, and taking subscriptions for the bee-papers. I presume I judged other bee-keepers by myself, and thought that they would spend their last dollar if they came across a new bee-book. Mrs. H. said she didn't think it would *pay* to go, but I wanted to try it.

I sold 20 or 25 pounds of honey, two A B C books, took one subscription for GLEANINGS, and sold "nary" a smoker. I saw lots and lots of bee-keepers, and had a real good time, even if some of the ladies did ask if the honey-extractor was a *patent churn*. Every one seemed glad to meet me; but they came to the fair to have a good time, and not to buy bee-books—they could buy *them* at any time. As to smokers, the season was about over; they would have but little use for one this season; they would wait until next spring, and then buy one. I received a discretionary premium upon fdn., and a premium for having the greatest and best variety of apiarian implements and products was awarded to me, but, through some mistake or misunderstanding, it was never paid.

My father-in-law, Mr. Clark Simpson, of Flushing, Mich., also attended the fair, and exhibited a lamp nursery, a chaff hive, Italian bees, honey, smokers, shipping-crates, etc. He received several discretionary premiums.

Our attending the fair did a little good, however, as, last year, there was only \$1.50 offered as premiums in the apiarian department, while, this year, there is \$15.00 offered.

I shall not attend the fair this season, as I can not *afford* it; besides, the "little folks" at our house cry for "papa" if he is away nights.

Oh, yes! the next day after the fair, a man came and bought six queens. It was seeing me at the fair that brought him.

ADVICE TO WOULD-BE QUEEN-BREEDERS.

Each year the number of queen-breeders seems to increase; and, as the number of breeders increases, there seems to be a corresponding *decrease* in the price of queens. If prices go much lower, some of the breeders will probably "drop out," so that those who keep right along in the business will probably make as much as ever. In spite of the prospect of low prices, however, there are, I presume, quite a number of bee-keepers who are thinking of entering the ranks as queen-breeders. To such, let me say a few words. Although I have been in the queen business only three years, I have been *in earnest*, and have learned a good share of the "wrinkles."

Of course, you can buy an imported queen and raise "dollar" queens, even if your own and your neighbor's bees are blacks; but I would not advise you to do it. I presume it is such "doings" as this that has caused so many to condemn dollar queens. If your own apiary is not Italianized, do it this fall—it isn't too late. You can introduce queens as long as the weather is warm enough to handle bees. Do as I told you last month—buy dollar queens, and in the spring you can destroy those that produce hybrids, and then either divide the stocks up into nuclei, or else buy tested queens to put in the places of those destroyed, and your apiary will be stocked with pure Italians at the *lowest possible cost*. If you can get your neighbors to buy queens at the low prices at which they are now offered, you would better do it, even if you have to introduce the queens for them, and run the risk of their being accepted. If they will not buy the queens, trade with them for some of their bees, or something else; that is, if you

have the money to spare with which to buy the queens. If you can not do this, wait until next spring; then buy an imported queen, rear queens, and Italianize your neighbors' bees, *if you have to do it for nothing*. I know from experience that it requires quite an effort to get the blacks out of a neighborhood, and to *keep* them out; but you will find that it *pays* in the end. Don't go into the business too largely at first; and if you have one season's experience in rearing queens and selling them to your neighbors before you advertise and send them away by mail, you will not have so many unknown difficulties to contend with, as you will know *something* about the business. Do *exactly* as you agree, and satisfy your customers, even if you have to return their money. Reply to every communication promptly. If you can not send queens *at once*, write and let your customer know when you *can* send them, and *why* they are delayed. One customer wrote me this season as follows: "I don't mind waiting a little for the queens, if I only know when they are coming, and *why* I have to wait."

There has been some discussion of late in regard to which pays the better,—to raise queens or honey. In a good honey season, I *think* there is about as much money in honey, and enough sight less worry and "trouble;" while, if it is a poor season, you can, by feeding, rear queens at a profit. There is another advantage in the queen business, and that is, you get your money right in your "fist," "cash down," and there is no chance for the commission men to "gobble" it. And "last, but not least," unless you can make queen-rearing your principal business, don't think of going into it, for you will certainly lose money, as one little "forget," or one little "neglect," will knock the profits "higher than a kite."

BEES APPEARING DEAD, WHEN THEY ARE ONLY CHILLED.

If any one should receive queens and bees by mail during the cool weather of October and November, and they should appear to be dead, let them warm them carefully before deciding that they are really dead, as they may be only chilled.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

EARLY-AMBER SUGAR-CANE.

HARVESTING THE CROP AND MAKING THE SUGAR.

IT is September 25th, and our sugar-cane is ripe, and harvested. Some that we planted a little earlier had ripened its seed nicely, by the first of September. Half a dozen of us went into the field, and stripped the leaves off so as to leave only the bare stalk, and, as soon as that was done, the stalks were cut close to the ground, and laid in small bundles. Another hand then went from bundle to bundle, and cut the heads off, while one of the small girls stuck them in the ground that they may cure, ready for thrashing, without any danger of molding. After this the stalks were drawn to the mill. Our mill is a second-hand, two-horse-power machine, and we run it by a belt from our engine. We set it up outdoors, and ran the belt out through the door. For two weeks back, I have been considerably exercised to invent some plan for boiling down the juice by means of steam. Aft-

er the second experiment, I improvised a machine which works so admirably that I will describe it for the benefit of you who have steam-engines. Two pans were made of tin, as large as our largest sheets of tin, which are 20x28 inches. The sides of these pans should be about 10 inches high. One is to bring the juice up to the boiling point so as to allow of skimming, and the other is to syrup off in. Of course, the first one is elevated so that a honey gate will carry the juice right into the other, without any dipping. Now then, to make them boil by steam, 8 tin pipes, 1 inch in diameter, are laid about $\frac{1}{2}$ inch from the bottom of the pan. We want the steam to pass through these, down one, and up the other. To unite them at the ends, a two-inch pipe is made to receive the ends of all of them, so as to form something like a gridiron of tubes. These two-inch pipes are closed at each end, and also have partitions placed at such points as will compel the steam to pass in a zigzag direction through them all. The pipes must be made of stout tin, securely locked, and where the inch pipes are put into the two-inch, we put a strap of heavy tin around the large pipe, and lap it a little distance down the tubes. The caps on the ends of the large pipes are made double, and similarly strapped. This is to avoid the possibility of bursting. To be sure, you would better attach the machine and test it with a pressure considerably greater than you ever intend to use in boiling. A $\frac{3}{4}$ inch gas pipe admits steam at one corner, being securely soldered in. At the opposite corner, a tin pipe is set in, in the same way, passing nearly to the bottom of the largest tin tube. This is to carry off the water, or condensed steam. The gridirons rest on $\frac{1}{2}$ inch legs which simply rest on the bottoms of the pans. Steam is admitted to either one, by small globe valves.

With your hand on the valve, you can set either pan foaming in an instant, and, in an instant also, you can cause it to stop boiling entirely. Our apparatus is placed in a little building we have been using for drying lumber by steam. An extractor-can, placed on a barrel, feeds the raw juice into the first pan. Raise the gate, and fill the pan with juice to within an inch of the top. Now open the valve, and boiling will commence almost at once. As fast as the coat of green scum rises, skim it off; but keep your hand on the valve, or it will boil over before you know it. After it has boiled until all the scum has risen that will rise, you can open the gate, and fill the second pan. Manage so as to do all the skimming in the first pan. By this apparatus we get a beautiful amber-colored syrup, that I am extremely fond of. Of course, it has something of an acid taste where no lime is used, but as many do not use the lime at all, I decided we would not with this, our first experiment. The bees have not troubled us very much, although it is extremely dry and warm, and they have nothing but the Simpson Plants anywhere about, to work on in the middle of the day. I would hesitate to feed this syrup for winter stores, but, without question, it will be safe for a warm-weather feed. I think it is fully decided that we can all raise our own

syrup any way, much cheaper than we can buy it, if we choose to take the trouble. Good syrup, if I am correct, will always turn into sugar by standing. The sugar, however, holds the syrup in its crystals so tenaciously, that it must be thrown out by a centrifugal machine, something like our honey extractors. Our extractors will probably answer for doing it in a small way. I will try to tell you about this next month. We had nearly half an acre of the cane, but owing to the dry weather, and rather poor ground, it has not made a large growth. We do not know how much syrup we shall have. The two pans are boiling now, just outside the window where I am writing, and I tell you, they work about as handsomely as any machine I ever before got up. As only a thin sheet of tin intervenes between the syrup and the steam, the pipes give out an immense amount of heat. I should think the expense of a pan, pipes and all, should not exceed \$3.00 or \$4.00.

UNRECOGNIZED HONEY PLANTS.

IN the market, all white honey is clover and linn, all dark is buckwheat, and all yellow is golden-rod. He must, however, be a dull boy in the class who supposes that all the surplus honey comes from these four plants. There are several plants little recognized that yield quite largely, besides a multitude that help the bees along with their daily supply of bread and cheese. Let us take a peep at a few of them.

BLUE LUPINE.

How we all rejoiced last spring in the splendid run of honey from fruit bloom! But, alack-a-day! the unusual weather that produced it did also another thing that wasn't so funny. Pretty much all the early bloom in field and forest that should make the spring melifluous for weeks, was crowded into the same three or four days. This classmate's colonies were very weak in flying bees just at that time. The flood of honey went mainly to waste—and then a dearth. The pert and cheery flower named above came to the rescue with excellent effect. It commences to bloom before the apple-trees do, and holds on until long after white clover has begun. I can not tell whether it ever furnishes a decided run of surplus honey or not; but I found it this year an excellent thing for bees to grub away at, week in, week out, when little else could be had. The lupine loves the sand "openings," and besides our corner of Ohio, it has, I think, a wide range of territory in Michigan and northern Indiana over which it befriends the bee-keeper. Its pollen is bright orange yellow. Lupines are much less abundant here now than years ago. Our "openings," even in their wild state, are plainly increasing in fertility, and other plants are driving the lupines out—a state of things I look upon with some regret. To those who do not know the flower I will try to describe it. The plant is some 15 inches high, of which the spike of flowers is more than one-half. An individual flower resembles a small blue sweet pea, and the resemblance extends still farther to the pods and the peas. Many of these flowers are arranged around a rather fleshy stem forming a slender cone of bloom. The plant is sometimes called the sun-dial on account of its curious leaves, which are round, and composed of

many narrow leaflets radiating like the hour-marks of a dial, or the spokes of a wheel.

CORNELS.

When I was a boy, and lived in the heathenish darkness of box-hive-ism, a new swarm of bees would sometimes "light out" for the woods after they had made a nice beginning at work in the hive. Fine chance was this for honey-loving boy to fly upon the spoil. How pearly white was the abandoned comb, and how beautifully clear the unsealed honey!—Bah! what kind of stuff is this? Sweet enough, to be sure, and quite guiltless of any positively bad flavor; but it tastes, for all the world, like some sort of molly-coddle fixed up for the baby, almost uneatable even to the gastronomical small boy. This, as nearly as I can get at it, was raw cornel honey. Give it a little age and the "silliness" of taste disappears, and it becomes indistinguishable from the best clover honey. I think a considerable percentage of the white clover honey of the market is really from the white cornel, although, as the cornels bloom in swarming time, most of the abundant supply of honey is used up, and does not get into the sections. The present year, the cornel bloom totally failed to secrete honey, and the result was that the bees quietly postponed swarming until basswood bloomed, and then used up the basswood honey in their swarming flurry.

There are several species of cornel, but among them the white cornel seems to be pre-eminent as a bee plant. On rather poor upland it is about the size and style of a hazel bush; on rich bottoms it is a spreading shrub 15 feet high, and as thick as a man's ankle. Take the tenth part of a bunch of elder blossoms and you have a bunch of cornel blossoms. The bloom gives place to a bunch of white berries too bitter to be eaten. These waxy-looking white berries are not very likely to be mistaken for anything else. Sometimes, however, they seem not to be in clusters; this is when there have been so many bunches of bloom that the plant is able to mature only one or two berries from each. The bark and leaves have a whitish look, taking hues of brown and red later in the season. The red cornel has red shoots and bright blue berries. The early cornel, or flowering boxwood, is the most conspicuous and well known of the family, but I am not posted as to its honey status, few of them growing near us.

BASIL.

The best of all honey produced in this locality is from the wild, sweet basil (*Pycnanthemum lanceolatum*). If you can pronounce that smoothly, and with a placid countenance, you may commence the study of botany directly. While I deplore the disappearance of the lupines I can rejoice in the assurance that this very desirable honey plant is on the increase. Could we get enough of it that bees might work on it exclusively we might snap our fingers at those California fellows with their white sage. Basil, like the sage, belongs to the great order of mints. It is a neat, inoffensive plant; its strong minty taste defends it from being browsed by animals; it lives in the ground for a series of years; and the flavor of its honey is most delicious. If we are to have a honey plant cultivated for honey alone, I am not quite sure but this is it. At any rate it seems to me that I must find time somehow to post myself as to its seed, its mode of propagation, its behavior under cultivation, and so on. If we are to cultivate honey we will hardly be satisfied with anything short of

the very best. If as much as one-fourth of the honey coming in on any given day was basil it would, I think, flavor all the surplus stored that day, owing to the bees' habit of handing honey from one to the other and mixing it up. My snow-white field clover (if I should ever get it), flavored by one-fourth sweet basil would be almost millennial honey, would it not? Basil began to bloom this year about July 16th; and yesterday, Sept. 17th, I saw bees at work on it. Some stalks, however, are now brown and dead; and most of its bloom closed some time ago. Basil is a light-green plant two feet high, more or less, dividing into numerous branchlets toward the top, and inclining to be level above. Each branchlet ends with a little head, about the size of half a hazel nut, from which the flowers spring. But few flowers spring from the head at any one time, but eventually a good-sized head gives rise to as many as forty. The flowers are small and short tubed. Take an individual floweret of the catnip and cut it shorter by one-half and you have something like the basil floweret—white with a slight purplish tinge, and little spots of darker hue.

HELIANTHUS.

"Who ran to catch me when I fell,
And kissed the place to make it well?"

In short, what came gallantly to the front this bad season, and gave me some surplus honey (more than all other plants combined), when I feared that my whole crop would not exceed a dozen sections? The helianthus. The spring bloom came in a flood, and went again like a game of bo-peep. White clover gave the bees only a scanty living. Cornels were wonderfully profuse of bloom, but not a bee could be seen on them from first to last. Basswood came two weeks ahead of time, before the bees had swarmed. It came and went, and only here and there a hive had just a few filled sections. Didn't things look blue for a while? Couldn't look to buckwheat to help me out, as farmers have pretty much left off sowing that in their zeal for wheat raising. What was sown gave no surplus honey. Under these circumstances it was a very pleasant surprise to me to find how valuable a honey plant the helianthus is. I suppose it is more than usually abundant in my locality, and that the well distributed rainfall of this summer caused an unusual yield. This plant is frequently called wild sunflower. It is tall enough to pass for a sunflower, to be sure, but one seeing it for the first time would hardly be reminded of the stiff, stubbed, platter-flowered sunflower of the garden. Its stem is slender and graceful, and its flowers, which are numerous, are not very much larger than an old-fashioned cent. It strikes me that the botanical name, which happens to be a pronounceable one, is the better designation. I have great faith in the bees themselves as good judges of honey. They wouldn't look at golden rod, which was blooming in plenty, when helianthus was in its prime, but began work at it when helianthus began to fail. Hence I think the helianthus yields decidedly the purer flavored honey. We must not expect, however, that any plant in the great order of compositæ will yield honey that is entirely free from the chamomile flavor when the honey is new. The color of helianthus honey is a glistening light yellow which appears very well.

GLEANINGS has made some inquiry about the red bud, or Judas-tree. It grows here, four miles from the Michigan line, and did well enough this year to draw some bees away from the ocean of apple bloom.

The inference drawn in Sept. GLEANINGS, that mellilotus kills bees, ought to be supported by more evidence before being generally accepted as a fact. It is rather late to make such a discovery—a little too much like finding out that oats poison horses. The facts noted were suspicious ones indeed, but next time put Ernest and that excellent microscope at work upon the dead bees, and see if their bodies are not full of the mycelium of a fungus. In regard to bees, I only conjecture; but house flies in the fall of the year are often so affected. They will die standing on the window pane, and the fungus will spread on the glass, forming a circular patch as big as a nickel cent, and faintly visible to the naked eye. Fungus spores may be caught while visiting some plant (carried there by flies, perchance), and the plant may be free at one time and infested at another. I remember to have seen bees behave as you describe; they were on some sunflowers that grew near a barnyard.

A mistake in the names of the mellilots has stood for some time in the price list, and might be corrected when convenient. *Mellilotus Alba* and *Mellilotus Leucantha* are the names for the same plant, as given by different authors. *Alba* comes from the Latin, and means simply white. *Leucantha* is a Greek-fangled word meaning white flowered. The proper name of the yellow species is *Mellilotus Officialis*.
E. E. HASTY.

Richards, Lucas Co., O., Sept. 23, 1880.

Many thanks, friend Hasty, for setting us right on mellilot. I am always glad to be corrected, and I had several times wondered what was the difference between *mellilotus alba*, and *mellilotus leucantha*. I did not know before that they were in the habit of having two scientific names for the same thing, in botany.

FRIEND JONES has been here only four or five hours, but has already got so well acquainted with my sister, Mrs. Gray, that they two, together, have laid a plan to get me to go to the National Convention, and succeeded so fully that I find myself putting the last finishing touch on the editorials preparatory to leaving. If God wants me at the convention, that is just where I want to be.

OUR amber sugar-cane is all made into syrup, and we have about 40 gallons, from the $\frac{1}{2}$ acre. Now, what we want for bee culture is a plant that will furnish as much saccharine matter as the sugar-cane, and furnish it, too, in a shape that will enable the bees to take it right from the plant without any intervention of sugar mills and labor of gathering, and evaporating the juice. From my estimate of the capabilities of the Spider Plant in the A B C, you will see that it comes pretty near this desideratum, and the product is incomparably nicer than any syrup can be.

THE BLUE THISTLE NOT A THISTLE AT ALL.

AFTER considerable trouble, we have finally got a plant of the so-called blue thistle, blooming in our garden, and one of the girls declared it was not a thistle, but *Echium vulgare* (blue weed). We sent it to Prof. Beal, and he at once pronounced it the same. It is very nearly allied to our common borage, and I thought, when the blue flowers came out, that it was astonishingly familiar looking. I should now call it, simply another variety of borage, and nothing more. Borage grows easily, and comes up very thickly self-sown; but I should never think of calling it a bad weed, by any means. It simply grows quickly on any ground not occupied with something else. All the weeds that can get a chance to grow on our honey farm are quite welcome. I like to make their acquaintance with "Jack" and the cultivator.

DEPOSITORY OF *Blasted Hopes,*

Or Letters from Those Who Have Made
Bee Culture a Failure.

MR. A. I. ROOT:—Time was when I would have addressed you as "Dear Novice," or "Dear GLEANINGS," but I have lost so much money in the bee business (which I would never have undertaken had I not seen GLEANINGS), that I am not drawn to you so closely as I used to feel, though I do wish you would help me out of a bad place. Having been compelled by ill health to give up a lucrative business (wholesale boot and shoe business in St. Louis), I went to the country (Jeff. Co., Ohio,) in the fall of '74. There I saw a copy of GLEANINGS, subscribed for '75, and bought the back volumes. I read them, besides "Quinby's Mysteries" and "Langstroth on the Honey Bee." I bought 12 swarms in box hives, transferred to movable-frame hives, Quinby pattern, bought your extractor, slung something less than a barrel of catnip honey, increased to 36 swarms, and wintered on sugar syrup and candy. Much enthused by my first year's success, I came here and bought 125 acres in a region reputed good for bees. I got no honey that year, '76, and quit reading GLEANINGS. In '77 I got less than 500 lbs., which I sold in Mason's jars, in Washington City, at retail, for 10c. I got no honey or bees in '78 and '79. This year has been a honey year with my neighbors' bees, particularly where sections have been used, but mine have averaged less than 30 lbs. extracted honey, which at price, 10c retail, does not pay for the sugar fed them last fall and spring. I have always wintered my bees on A sugar, and thus far have paid out nearly \$300.00 more than I have taken in; and now I want to sell out and return to the city. I have the only extractor in this part of the country, but am not likely to find a buyer, as the bee-men (?) are too much afraid of stings to use it.

BEN. S. COLE.

Clifton Station, Fairfax Co., Va., Aug. 23, 1880.

Many thanks, friend C., for your kind, frank letter. If you do not feel like saying "Dear GLEANINGS," do not say it. May I suggest that, as you gave up your business in the city on account of bad health, your health may fail again, and that you may have to pay more than \$300.00 for doctors' bills, and not have as pleasant medicine to take either.—Are you sure you would not have done better to have kept reading a bee journal, instead of stopping it at your first bad luck? May it not be that the "Blasted Hopes" column would have been the means of preventing you from embarking entirely in the business as you have done? Besides, had you kept up with your journal, you would now, probably, have been using sections for your neighbors are doing, and with 20c or 25c for your honey (instead of 10c), would it not have made a different showing? If you will accept it, we will send you GLEANINGS one year, for your very excellent report, and kind warning to our A B C class, against embarking too hastily in the start.—You say you have, by the use of sugar, mastered the great wintering trouble successfully. Is not this worth something?

I have been examining my bees, and taking off sections, when I could find any that were filled. O dear! Such a dearth I never saw! Not more than $\frac{1}{4}$ were fit to come off. There is no use of leaving them longer, for no honey is coming in, though the weather is fine. There is not much brood,—combs are empty and clean,—and no crowding the queen. Last year, we called a poor season, but bees were filling up at this time, and went into winter quarters strong. There is the same complaint all over this section. We have had a very wet season, and there was no honey in the flowers. I expected to have a good fall, but I shall be disappointed. Some Italians have filled up well, and also hybrids. Blacks have done poorly.

N. A. PRUDDEN.

Ann Arbor, Mich., Sept. 16, 1880.

I wish you would send me the "A B C of Bee Culture," or something to instruct me how to transfer bees, as my bees are all being eaten up by the moth. Out of 40, I do not think I can save 5 or 6. Mine are black bees in the old box hives, and I have to tear them up from top to bottom to see the moth. The bees leave every time. If I smoke them out, what little honey there is left tastes of the smoke. If you can help me save the bees, now is the accepted time.

Leon, Ia., Aug. 31, 1880.

THOS. H. LEESON.

Friend Root:—At a special meeting held here the 2d inst., 34 bee-keepers report—

No. of colonies last spring, 518. Increase present season, 377. Box honey taken off, 2,586 lbs. Extracted, 695 lbs. Total, 3,281 lbs.,—a little over 6 lbs. per colony of the original stocks. From our 80 colonies, we have had 25 increase, and taken off some over 600 lbs., mostly extracted, and all made since 10th to 15th of Aug.

B. SALISBURY,

Sec., South Mich. Bee-Keepers' Ass'n.

Battle Creek, Mich., Sept. 10, 1880.

Allow me to give you a glowing (!) record of our honey crop in Southern Kansas. For weeks past, the roadsides and fields and sloughs have been almost literally covered with Spanish needle, golden rod, and sunflowers, yet hardly a drop of honey has come in. From 19 swarms, I shall not get 25 lbs. of honey. Yet, according to the latest theory, it is all my own fault.

H. M. TAYLOR.

Parsons, Kan., Sept. 18, 1880.

Are you not putting that last point pretty strongly, friend T.?

This has been an exceedingly poor year for bees in this section. Not one hive in ten has yielded 1 lb. of surplus honey, and there was scarcely any swarming, so you might as well put this section into *Blasted Hopes*.—The two, dollar queens I purchased of you proved excellent queens, as good as any two-dollar tested, as their hives are full of 3-banded Italians.

W. SHIELD.

Muscatine, Iowa, Sept. 16, 1880.

THE WHOLE STORY IN A "NUT SHELL."

Honey, about 150 lbs. in 1 lb. sections; bees, 45 colonies; no swarms—none wanted.

J. H. PEIRCE.

Dayton, Ohio, Sept. 10, 1880.

DIFFERENT KINDS OF FRAMES.

ON page 425, Sept. GLEANINGS, in speaking of uniform hives and frames, you say, "The young bee-keepers who have been educated to use the L frames are more disgusted than one

can well imagine, whenever, by chance, they are called upon to open hives containing Gallup, Adair, American, Quinby, or other frames." Now, don't you know that a good deal of that kind of "notions" is altogether owing to *habit*? Had those "young bee-keepers" been used to handling the more nearly square frames, and then for the first time set to opening L. hives, their disgust would have been just as profound when handling those long, shallow, unhandy things, as it is now with other sizes than the L. I have had the care and use of hundreds of hives of all sizes of frames, except the Quinby, and, with all my work with the L. frame, were I to hire out to a bee-keeper, I would willingly work for *less* wages, if he used a nearly square frame in place of the L. I began with a frame 15x18 inches, then changed to one 12x15 (15 deep). For the latter frame, I made an extractor to fit. Afterwards, I changed again (after a visit to Adam Grimm), and discarded the tight top bar. Not wishing to throw away my extractor, I made a new frame to fit my extractor, but to go down endwise, which gave me a frame almost the size of the Adair, 12½ deep by 14½ long. My hives are all to fit that sized frame, and will continue to be. As I run bees on shares for others, I have two other sizes, one the same proportion as my own, a little smaller, and the L. I am going to transfer the L. combs into my own, and then there will be some cheap L. hives for sale. I have never given my own stocks any better care than those I have on shares, and I have never yet been beaten on the average of comb or extracted honey taken from them. It may be owing to the strain of bees I have; I am inclined to think it is somewhat, for I have always endeavored to keep my strain up by new queens from the best breeders, and those got from J. Oatman & Co., Dundee, Ill., dollar queens, too, have pleased me the best of all. It is not the size of frame that is going to get the most honey, but the nearly square frame is much the easiest to handle and safest to extract from.

WILL M. KELLOGG.

Oquawka, Ill., Sept. 18, 1880.

A VISIT TO JAMES A. SIMPSON'S APIARY.

A FEW weeks ago, I found it convenient to stop over night at friend Simpson's, 4 miles west of Alexis, Ill. It rained the next day, so that we were weather-bound till after dinner; and such a bee talk as we had! It was after 2 A.M., before we went to sleep, and then our talk ended in a kind of "bees-z-z-z." Friend S. is a genius, and an inventive one too. I wish you could see the "fixins" he has for helping along his bee-business. He is adopting a new style of hive of his own invention; I suppose he intends to run opposition to the chaff hive. The walls of the hive are composed of pressed straw, about 2 inches thick (for which he has constructed a machine to do the pressing), held in place by upright wires tied crosswise by short wires, and he has a most ingenious machine for cutting and shaping these cross wires all at one operation, which does it faster than you can say "scat" when the cat is at the cream. After he has the walls of his hive built, with wooden top and bottom, and corner posts projecting a little beyond the straw, he puts a thin coat on the inside, and about a half inch coat on the outside, of plaster of Paris, making the wall even with the wood work. This makes a porous, warm hive, and also one that won't blow away very easily. He

uses an ordinary cap, filled with straw or chaff in winter.

But one article more than all the rest is worth mentioning; i. e., his wax extractor. Novice, you ought to send and get one. I believe if you would make and try one, you would drop all others from your list as useless. Imagine an over-shot, water wheel, the sides of the wheel of tin, and also the "dashes" inside, set angling to the axis of the wheel; the "dashes" are about 2½ inches wide; the outer rim of the wheel is covered with fine wire cloth, with a part of it hinged for a door. This wheel is enclosed in a tight box of wood (he would use tin, if making another), and steam is applied through a pipe, from a boiler on the stove. The comb to be made into wax is placed in the wheel, and the door fastened, the box cover put on, steam applied, and the wheel slowly turned by a crank. The wax falls on the dashes, and is chopped up fine; the steam melts it, and away it goes out of a pipe at one corner of the box. I am going to have one of them just as soon as I can, made after Mr. S.'s improvements, for it is the best wax extractor I have ever seen.

It would be too much to tell of *all* his useful articles, among which are an uncapping table, a fruit "smasher," etc.; and his excellent plum trees, a new variety, which Mr. S. has spent years and much money and care upon, to get them to grow from grafts from a tree brought from the East, where it was a chance seedling. The "little Turk" (*curculio*) does not hurt them, and they bear such large, delicious, yellow plums, as makes my mouth water to think of.

WILL M. KELLOGG.

Oquawka, Ill., Sept. 20, 1880.

BEE HUNTING.

A FEW days since, I was called off on business about 7 miles, and, on my return home, I had to pass through 2 miles of timber land. I thought I would look for a bee tree. I soon saw some bees watering at a pond, and, after a few minutes' search, found their home in an oak. Next day they were nicely transferred to a Simplicity hive. Three days later they left their nice hive on the prairie, and started back to their leafy, forest home, 3 miles away; but, by the free use of dirt, chips, brush, and sticks, I brought them down and put them back with an additional frame of hatching brood. They had three frames of brood, and two of honey, when they came out. I suppose they did not like the prairie country, and that was what made them act thus.

B. F. CARROLL.

Dresden, Texas, Aug. 17, 1880.

July 20th, Mr. Call and I took some queens to a couple of neighbors, some two miles out from our village. Mr. Wilcoxon got two, and as his were the last, we took a "bee line" from his place for home. We had gone but a short distance, through a woods pasture, when we noticed some bees taking water. We watched them a little while but did not find their home. Next day I went back and found them with but little trouble. Yesterday, Aug. 30th, I went over to help cut the tree, and get the bees. Mr. Wilcoxon claimed the honey as the tree was on his premises. The swarm was an early one of this season. The hollow in the tree was 8 inches in the largest place, and was filled for over 7 feet. We took two large buckets full of sealed honey, mostly basswood. I got brood combs enough to fill 5 L. frames. Two of the combs in the tree were 5 feet in length. I brought the bees home to-day. As the swarm was so very large, I weighed it, and found I had *eleven and one-half* lbs. of bees. How is that for "big?"

S. A. SHUCK.

Bryant, Fulton Co., Ill., Aug. 31, 1880.

The "Growlery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

And whosoever shall compel thee to go a mile, go with him twain. Give to him that asketh thee, and from him that would borrow of thee turn not thou away.—MATT. v. 41, 42.

IN taking these sketches from real life, and from real business transactions, as I do, I trust no one will think I do it, with a view of showing how I am right, and everybody else wrong, nor by any means, with a view of telling how I have been ill-used; but on the contrary I have been well-used, and feel thankful to you all, even the ones whose letters have appeared in these columns, for they have taught me excellent lessons. I feel as happy over these new discoveries (that are as wonderful to me, as to any of you) as I should over any new development just brought to light in the way of honey plants.

Many times, after putting a thing in the price lists, I find it does not work as well under more extended tests as it did at first, and in trying to remedy the difficulties, I often send you something a little different from what the advertisement reads, and perhaps different from what you have had before. I strive not to do this, for I dislike changes as much as anybody, but I can not always avoid it. This spring we ran out of sections with a little honey in them to send with $\frac{1}{2}$ lb. of bees, and Will advised that we should send a full-size comb instead, especially as it was so much easier to get the bees in the package. Nearly all our customers thanked us, and one or more offered to pay for the nice large comb, that often contained some brood too, even, when none was expected. One friend, however, you will see from the following letter, was not pleased.

I was much disappointed in receiving from you a box 20x4, as an apology for a "lb. of bees and queen." I never ordered "any such truck" from you, and how, in the name of common sense, you should send me such a thing will always be a mystery to me. I supposed that I knew what I wanted, and if that box is anything like this cut (which I enclose), please get on your specs and tell me where the resemblance is.

Why did you not write me about it on the card you sent? Did you know that I had any hive that would take such a frame? You did not know, and cared less. It came here and I had no hive it would fit, and I undertook to make the best of it, but it was no use. I set it up edgewise in an American hive, and a fearful gale of wind came from the north, with very heavy rain, and upset the hive, and the whole thing was lost.

Had I known you were going to send such a thing, I could have been prepared and had a hive fitted for it. If that box, comb, and wire are worth anything to you, I will send it, back by express, you paying the charges. You may not be to blame in this matter, as it may be some of your hands, for it seems incredible that you should go to the trouble of printing a cut like the one enclosed here, and then, when

a person orders one of them, and pays you in advance, to send them as you did me a frame 18½ inches long and call it a lb. of bees. If you can't send what is ordered, *never* send anything till you know if it can be used.

W. R. L.

June 12, 1880.

I explained the matter as well as I could, plead that I was not to blame for the storm, and asked what would make the matter satisfactory. Here is the reply:

Yours to hand, and I feel no better over that affair than I did at first, for the reason that you had no right to send me any such truck without writing me. I do not blame you for the storm. You ask me why I did not brush the bees off. There were some bees on the comb (not half as many as you sent me last year), and I thought there was some brood in the comb, and I could see no queen, and that is the reason I did not shake them off. You ask what will satisfy me. I want a queen and *eight ounces of bees*, just the same as you sent me last year; and I want you to send it the first day of July or not at all. This will satisfy me; nothing more, nothing less.

June 26, 1880.

W. R. L.

This was a pretty hard one. I had to send them all over again, when I had been doing him, as I thought, a kindness by the different package. I felt very much like being stubborn, but sent them along, in as nice shape as I knew how, and drew a long sigh, as I thought of the losses that came one way and another, until it really seemed, some days, as if our business would break down, unless the Lord interfered, and held it up. I guess he heard the prayer. Read:

I received the package of bees all right, and there was double the bees that there was on that comb (to my view), and a splendid queen. I put them in a hive that I had prepared to put the pound of bees into, and they have gone to work all right. Now you have satisfied me. As I never worshipped gold, and you have satisfied me, which is worth more than money, please write me what will satisfy you, and I will see if I can do it. Had I known what you was going to send, it would have been all right. As it was, I had fixed a hive for the pound of bees, and the comb would not go into it at all. I am convinced that the comb is the best arrangement. Enclosed is a card; write me what will satisfy you, as I pride myself in not being outdone in fair dealing.

July 7, 1880.

W. R. L.

"Well, I declare, truly the Lord does provide," was my thought, and I thanked friend L., and told him if he would be so kind he might send me $\frac{1}{2}$ price, 75c.

You say you will be satisfied with 75c. Well, that is not enough. You satisfied me without any expectation of getting paid, which is more than the price of all the bees to me. Enclosed, please find \$2.00—\$1.50 for the bees, and 50c. for GLEANINGS for 6 months. I rejoice to find an honorable man in this age of selfishness.

W. R. L.

July 16, 1880.

And I, friend L., thank you for the lesson you have taught me, and rejoice to find that this is a better world than I thought, if it is met with the spirit that Christ taught when he uttered the words of our opening text. I feel that I know you, now, and you know me; and if we should have any future dealings, I think we can feel that we are old friends. May the kind Master help us all to get along with each other, in the way he intended us to live together.

Boys' Department.

MR. ROOT:—I am very young, and never had any experience with bees in my life, until I bought one hive of black bees, a year ago this spring. They gave me two swarms, and I wintered two colonies. Last fall, I found one of my colonies had no queen. I was at a loss what to do. I saw a man who told me that I could get an Italian queen of J. H. Nellis, so I sent to him and got one; I tell you she was a nice one. Well, there I was, with a queenless hive, and a queen, but how to get them together, I did not know. I went to work however, and got her introduced, and then got a frame of fdn. of a neighbor. In just 12 days, I looked at them, and the bees had the fdn. all capped with brood. She proved to be the best queen in the world. This spring she gave me a swarm on the 17th of June, and one the 18th, and one the 19th. "How is that for high?" My blacks gave me two swarms. I have 7 swarms now, besides one I bought this spring. They have not swarmed yet.

JAMES H. CRAFT.

Rockland, Sullivan Co., N. Y., July 5, 1880.

Pretty well for "high," for a boy, friend C. I hope you will have as much energy and zeal with your 7, as you did with your first few. Remember what the Bible says about those who are faithful with a few things.

I am a boy 16 years old. I commenced to keep bees three years ago, when I had one swarm and now have fifteen. Ten died during the winter. I had a swarm of bees this summer measuring about half a bushel. They alighted on the limb of a tree. I got about half of them into a hive, with the queen, and they were coming out again so fast that I closed the entrance with a piece of wire cloth. The rest of the bees, which I did not get, were flying about in great commotion in the air. I did not know what to do about the bees which were flying through the air, but thought I would get a queen from another hive, put her in a queen cage, and hang her up on the limb where the bees had swarmed. I had not had the other hive open more than two or three seconds before the bees which were flying through the air rushed for the hive. In about 15 minutes they were all in. I would like to know the reason why, as I have seen nothing of the kind in your A B C book of GLEANINGS.

I made a pair of friend Faris' plates, and proceeded to make fdn. according to your directions in the GLEANINGS. The fdn. came off all right, without sticking, but would crack into small pieces. Please tell me the reason.

ANDREW S. MYERS.

West Woodstock, Conn., July 17, 1880.

It was rather an accident, I think, that caused the bees to rush into the hive you had just opened. They were flying about in a sort of lost condition probably, hardly knowing where their queen was, but at the sight of the bees in the hive, they probably thought she must be in there, and so followed each other in.—Your sheets of fdn. cracked, I should say, because you had your wax too hot.

I have been keeping bees for the last eight years, and I am now 21 years of age. I have also a step-brother, 13 years old, who is going into bee culture.

April 6th, 1880, he bought one Italian swarm which weighed 15 lbs., for I took them down from a fig tree, and put them into a sheet, and weighed them. They have built 18 combs, 13x17 inches, but they are very cross. Whenever we get near them they sting us. My brother bought them from a negro man, and paid 25c for them. I will have to make another hive, for they have no more room in two hives. He put section boxes on them, but they would not work in them. We have not taken any honey from them, because they are rearing nothing but bees. It is the largest swarm of bees that I ever saw in my life.

I have a tested queen from Oliver Foster, for \$1.50. I put the queen into the hive at 2 o'clock, and at 6, I turned her loose, and not a bee balled her. The next morning I looked at her, and she was laying. That was the first queen that I ever introduced. When the queen came by mail, mother began laughing at me, and said that I was getting out of order, but I told her I was trying it. GEO. A. SHAFER.

New Orleans, La., Aug. 11, 1880.

A LIFE PICTURE IN TWO CHAPTERS.

CHAPTER ONE.

I AM afraid you will have to put this A B C scholar in the Growler, if this thing continues a few days longer. I go down to my farm early, every morning, and get back after dark. I live next door to the depot agent, a very amiable gentleman, and a most faithful officer of the Co. I ring at his door-bell every night, about 10 o'clock; the poor, over-tired man jumps up in alarm, and cries, "Who is that?"—"Mr. Thompson, have the Italian bees come?" This has been done four consecutive nights, and necessarily must be so, for I leave directly after breakfast in the morning, and Mr. Thompson is at the depot, which is some distance off, and the bees might starve there. I say he is an amiable gentleman, but I am sure he "cusses" me, you, and Italian bees, in his heart, every night. Again Mr. Jim Ware is interested about them, by my lending GLEANINGS. He has ordered two queens of you by mail, and says he is going to subscribe for GLEANINGS, and buy A B C book, and have your Simplicity hive, &c. Every morning, as I pass the block of buildings in which his store is, he cries at the top of his voice, as I rattle past in quick trot, in my one-horse wagon, "Brother Fontaine, have the Italian bees come?" "Not yet, brother Ware." There are 4 brick stores in the block. All the merchants are interested by Ware's talk, and at that early hour, when there are but few customers, they sit under their awnings facing the west, smoking their pipes and reading their papers. They look up and smile. Four miles on the road, I meet from 15 to 20 gentlemen or more on horse-back, in buggies or wagons, that are coming into town. They all stop and ask if my Italian bees have come, for they pass by my house and have seen the hives. My dear sir, do end this state of things, and let me say—"Yes, gentlemen; they have come." In great haste—

WM. L. FONTAINE.

Reidsville, N. C., July 20, 1880.

CHAPTER TWO.

Put me down in the Smiler. My Italian bees, ordered on the 8th, arrived safely on the night of the 22d. I carried them to Leguria on the morning of the 23d, and introduced them without difficulty, having fed them well with honey before uncaging them.

They went to work on the buckwheat and corn in an hour afterwards. Surely you must have put in more than a lb. of bees. Why, it was a very large swarm; and only 31 dead bees among them. Both hives answer very well, though I like the chaff hive the best. On the 24th, they were bringing in large quantities of pollen, showing that the queens had laid. I gave them honey every morning, so as to push them forward. Bro. Ware's two queens have arrived safe, and been introduced successfully. There is more talk among the farmers here about getting Italian bees, than about the presidential election.

WM. L. FONTAINE.

Reidsville, N. C., July 27, 1880.

MORAL:—Although one ought not to complain very much if he gets his bees in 12 days after the order is sent, the above little sketch indicates how much anxiety, trouble, and possibly unkind thoughts and words would be saved, if supply dealers would make arrangements to have such goods as a general thing sent off the very day the order is received. My friends, let us get up a friendly strife, if that is the proper word, in seeing who will be most prompt in filling orders another season. And, by the way, suppose we commence now, this minute. The first letter or postal card you get after you read this, answer so quickly that your correspondent will be pleasantly surprised. If you have to go some distance to the post-office, carry some cards in your pocket, and answer your letters before you leave the office. Never put a letter away saying you will think about it, or you will answer it sometime when you feel more like it. I have had a great deal of experience in being obliged to decide in regard to difficult matters at once, and I am satisfied that it is about as well to decide at once, and have a matter finished up, as it is to wait, and have it burdening your mind. I would rather decide wrong once in a while, than to have several things on my mind which I feel all the while "ought to be seen to." All the advertisements in all the bee journals can not equal the single one of *promptness*.

SOME FACTS ABOUT THE ARKANSAS BEE.

LAST winter, I purchased two hives of bees from a neighbor, who has been keeping them for the last 30 years, in the old, box style, with no variations. An Italian bee, so far as I know, has never been within 30 miles of us, until this summer when we procured some queens; and of a certainty, the colonies I bought were what is known as the common *black* bee, or I would better say, perhaps, as your correspondent, friend G. B. Peters, designates them in Sept. No. of GLEANINGS, the "*brown*" bee. Early in the spring, we noticed three kinds of bees in each hive, for which we, my son and I, could not account. This being contrary to the teachings of the A B C and GLEANINGS, my son procured one of each kind, and forwarded to friend Novice, requesting his judgment of the quality of each, and not letting him know that they were taken from the same hive. Here are his words: "One bee, I would decide, to be full Italian; the rest hybrid." This made the matter worse, for we could not believe there were three queens in each hive. Knowing that by far the greater portion of the workers were the

brown bee, with a considerable sprinkling of the full Italian and hybrids in the same hive, we almost came to the conclusion that we had some wonderful queens indeed.

A few days after receiving friend Root's card, I chanced to take up GLEANINGS (July No.), and noticed the article from Jerome Wiltse, which satisfied me that he knew what he was writing about, and that he had some of the same identical race of bees. Still the mystery has not been solved. Can the fathers in "Beeology" teach us of the A B C class, how the same queen can propagate the Italian, Hybrid, and brown bees? Here is your nut to crack. What say you to this, friend Peters? The bees of these mixed colonies are much larger and more active and industrious than those of the other stands of the brown race, and as honey gatherers I do not doubt but they are equal to the genuine Italian or any of the fancy races. If they defend themselves from the moth equally as well as the Italian, I rather think they will be superior in other qualities.

R. A. BETHUNE, M. D.

Snyder, Ashley Co., Ark., Sept. 14, 1880.

Inasmuch as almost every queen that meets a common drone produces some bees that have all the marks of a full blooded Italian, I cannot see where the mystery is, friend B. Although Italian bees haven't been within 30 miles of you to your knowledge, I am pretty sure you will find pretty much all the bees in the woods, as well as those in the box hives in your vicinity, show the Italian blood just as those you found in that hive did.

Humbugs & Swindles,

Pertaining to Bee Culture.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

MRS. COTTON.

I REMARKED last month, that we had not heard from her for some time; but now comes the old circular of her wonderful book again, from several sources, all at once. It would seem that no one should send money in answer to such preposterous claims. Here it is:

A NEW BOOK!

BEE KEEPING FOR PROFIT.

I have carefully prepared and written a Practical Work on Bee-Keeping, with the above title.

This Work is the result of nearly twenty-five years practical experience with bees, and a close study of their habits and requirements.

The work teaches a new system of Bee Management, and renders Bee Keeping safe and profitable.

Every one who has a farm or garden should now keep bees, at least one or more swarms to furnish honey for the use of the family. There is no greater luxury than nice white honey in snow white comb. This best of all sweets is now brought within the reach of every one who has a spot of land large enough to set a hive of Bees.

By the new system of Bee Management taught in this book,

SWARMING IS CONTROLLED,

no increase by swarming unless desired, but the bees all work in the boxes storing box honey, instead of swarming out.

TWO HUNDRED POUNDS OF BOX HONEY

from a swarm of bees in one year, in localities where forty pounds by other methods is considered a large yield.

NO LOSS OF BEES IN WINTER.

Bees wintered safely on the same stands they occupy through the summer.

GREAT PROFIT IN FEEDING BEES.

It pays to feed bees, as well as our domestic animals, cows, sheep, etc.

NO LOSS BY BEES ROBBING, NO LOSS BY THE BEE MOTH.

Complete instructions for making Controllable Hives, Glass Honey Boxes, and all Fixtures required in the New System of Bee Management, taught in the book. In short, complete and comprehensive instructions are given in this book on every point connected with the successful and profitable management of Bees. So plain are the instructions that every intelligent person, though not acquainted with bees, can readily understand and apply them to bee keeping successfully and profitably.

THE BOOK IS HANDSOMELY ILLUSTRATED.

At the request of distant friends, my photograph appears in this book.

The book will be sent postpaid to any address on receipt of One Dollar.

Money in *Registered Letters* or by *Money Order* at my risk. However small the amount sent by Mail, *always Register your letter, or send a Money Order. Every postmaster is obliged to Register any letter, if tendered the Registering fee, which is ten cents, in addition to the regular postage, or thirteen cents in all.*

Address, MRS. LIZZIE E. COTTON,

WEST GORHAM, Cumberland Co., Maine.

The circular is substantially the same as the one sent out four or five years ago, only that, this time, she promises her photograph. I have several times before mentioned that we sent the money promptly, but have never received any book. If anybody ever finds that such a book ever comes into existence, I hope they will send me a copy, and, if it is not too long, we will have it printed in GLEANINGS. Haven't we a subscriber near West Gorham, that can go there and get the book without losing his dollar?

BEE STINGS AND RHEUMATISM.

DO THE STINGS PROVE A REMEDY OR TO THE CONTRARY?

HERE are answers to friend Lemmon's questions on page 441, September GLEANINGS, according to number as asked.

- 1st.—Am 29 years old.
- 2nd.—Have been keeping bees 12 years.
- 3rd.—Never had the rheumatism.
- 4th.—Ditto.
- 5th.—From 1,000 to 2,000 stings per year by *actual tally*. A bee sting used to swell in my flesh *fearfully*. Now I have got so used to it as never to know I have been stung, except for a few seconds.

WILL M. KELLOGG.

Oquawka, Ill., Sept. 18, 1880.

P. S.—Friend Lemmon, you need not expect any answers from our lady bee-keepers; that first question dashes all hopes of that.

W. M. K.

- 1st.—Am 75 years old.
- 2d.—Have been bee-keeping 5 years. Had rheumatism before engaging in bee-keeping.

3d.—Stinging time makes no difference, but I grow gradually worse by age. I am able to take care of 46 swarms.

5th.—I get about 500 stings per season.

I am glad Mr. Lemmon has interested himself in

relation to the effect of bee stings on the human system. No man has been more exercised on the subject than I have. I had exema (salt rheum) to such a degree as to be unable to walk, and was confined at home nearly all winter. While preparing my bees for winter, I got a great many stings, and the complaint became much worse. My friends laid it to stings. The doctor thought it only aggravated it. I wrote to several, Doolittle and yourself included. Doolittle said he had exema before he kept bees, but had had none since. I have had rheumatism for 12 or 14 years, slightly at first, but it has been increasing slowly (chronic) with age. Now it is difficult for me to get about.

N. A. PRUDDEN.

Ann Arbor Mich., Sep. 16, 1880.

1st.—My age is 52.

2d.—I have been handling bees for 15 years.

3d.—I was afflicted with rheumatism before I began to keep bees and I don't think stings do me any good.

5th.—I don't think I get more than 15 stings during the honey season.

M. M. CALLEN.

Moravia, Appanoose Co., Iowa, Sept. 11, 1880.

1st.—I am over 60 years old.

2d.—Have kept bees over 20 years.

3d.—Have been afflicted with rheumatism for 15 years, and remain the same. Stinging does me no good whatever.

5th.—On two or three occasions, I have been covered with bees, and perhaps stung 50 times a minute. It certainly does me no good.

B. B. TONEY.

Otwell, Pike Co., Ind., Sept. 18, 1880.

I am 24 years old, and have had the care of bees for 10 or more years. I have never had rheumatism except after taking off honey and introducing queens, and rest always cures that. I seldom get stung. But once in a while I pinch them, and they sometimes crawl up my legs. I generally give such to understand that I "am no bee hive."

LEROY VAN KIRK.

Washington, Pa., Sept. 1, 1880.

The above seems to indicate that stings have no effect either one way or the other, unless it is to aggravate the disease by irritation, just about as severe work would do. Very likely, in some cases, the sting might give relief as a counter-irritant, in exactly the same way as the application of a blister would do.

OUR OWN APIARY, FACTORY, AND HONEY FARM.

THE weather has been so exceedingly dry, that work in the apiary has been pretty dull, except where we have fed to get young queens fertilized and laying. The Cyprian and Holy Land queens show, by their progeny, as last month, that they are only average Italians, and nothing more, so far as we can see. The Holy Land queens are so much crosser than Italians and Cyprians, that one is tempted to think they get those whitish bands, by an admixture of Egyptian blood, and from what I have been told in regard to the Egyptians, it seems to me they are very much like them. The hardest colony I ever got hold of, that is when I tried to subdue them by smoke, was one of our Holy-Land stocks, and neighbor Blakes-

lee makes a similar report in regard to the bees of a Holy-Land queen I sold him. This cross stock of ours, however, does not produce bees differing in looks, from the ordinary Italians, or at the least very little. The one that produces bees with the white rings of down has a very gentle progeny, so it may be that not all Holy-Land bees are cross. How do others find them?

SIMPSON AND SPIDER PLANTS DURING A DROUGHT.

While every thing else is almost dried up, these two plants are furnishing honey still right along. The Spider Plants are still in bloom every morning, and the number of flowers produced each day is scarcely less than it was a month ago; but the yield of honey is quite sensibly increased by the light showers we have had once or twice. Irrigation would doubtless give an immense yield of honey with this plant. Below are some reports from different localities:

THE SPIDER PLANT IN DIFFERENT LOCALITIES.

The Spider Plants, of which you sent me the seed, are very fine, and some of them are in flower at this time, and produce an abundant supply of honey or nectar. I have called the attention of those who seemed to doubt the statement in GLEANINGS, and they have invariably admitted that your statement was not an exaggeration of the value of the plant.

Port Jefferson, N. Y., Sept. 4, 1880. H. L. MOGER.

My Spider Plants have just commenced blooming. The large drops of honey are there every morning, for a fact.

GEORGE EBELL.

Baker City, Oregon, Aug. 19, 1880.

The Spider Plant has been in bloom for 2 months, and I tried your dipper on the nectar; I shall plant a good patch next year.

B. F. CARROLL.

Dresden, Tex., Aug. 17, 1880.

From the 5-cent package of Spider Plant seed obtained from you, I got only 9 plants. They commenced blooming the latter part of June, and are still blooming. I never saw anything produce so much honey in a single flower. Great drops form before dark. The bees work on it until nearly dark, and then again early next morning. Sometimes some of the flowers do not seem to have any honey, when others have a large drop, which drops off on the ground when shaken.

H. H. FOX.

Tribulation, McDonald Co., Mo., Sept. 9, 1880.

I got 12 plants from the 5-cent package of seed which you sent me, and they began to bloom July 10th. The drops of honey were there so large, that they frequently dropped out upon the leaves. I watched it closely every morning, but never a bee touched it for a week, though they were thick on the cucumbers within 30 feet. I took a shingle one morning, and stuck it into a pile of Italians that were hanging out, and got it covered with bees, and carried them to the plants, and got a few to light on the flowers, and they stuck to them closely after that. My best plant is now 4 feet high, and has branches 2 feet long. I have not seen a drop of honey on them for 3 weeks, but the reason is the bees get there before it is light enough to see the honey. I have given each plant about a gallon of water daily for the last 3 weeks, so as to have it mature the seed which is beginning to ripen.

C. T. SMITH.

O'Fallon, Ill., Aug. 16, 1880.

I want to ask your opinion of the way my bees treat the Spider Plant. The plants are very fine indeed, and the large drops of nectar, at present writing, are to be gathered morning and evening; but, with a few exceptions now and then, the bees do not notice the honey in the plant at all, but they just fairly swarm around the stamen part of the flower, and seem to be gathering pollen, while the nectar is allowed to go to waste. Why is this? Would you supply pollen artificially? The bees are storing honey very rapidly from the cotton bloom, and I thought this explained the neglect of the Spider Plant. The plants are very fine, being about 6 feet high, and set 3 feet apart each way, and the branches are so woven together as to make a perfect mat of flowers. I am unwilling to see it neglected, if there is any remedy. Bees do not gather pollen I believe in the evening, but they buzz around this flower just as they do in the morning, with that pleasant hum which indicates a good flow of honey, and still leave the honey ungathered. I would like to hear your opinion on this subject, as I had intended to have at least $\frac{1}{2}$ acre of Spider Plants next year.

F. N. WILDER.

Forsyth, Ga., Aug. 19, 1880.

The strange phenomena you mention are caused, I think, by the fact that your bees find plenty of honey from other blossoms, but a scarcity of pollen. With a larger area of Spider plants, I think you would find bees enough on hand to gather every drop of honey as fast as it is secreted.

Since my Spider Plant has ripened, I find it growing all around me. It has been growing in this section no one knows how long. I found it at one house growing right in the bee-yard, but no one had ever noticed any bees on it. I have saved quite a quantity of seed, and have scattered a great many in out-of-the-way places. I intend to give it a big trial next year, and see if my bees will attack it. Bees have done nothing this year in this section, in consequence of the very warm winter.

R. P. JOHNSON.

Smithville, Ga., Sept. 5, 1880.

FERTILIZERS FOR SPIDER PLANTS.

I had one acre of the Spider Plant, all growing nicely very early in May, and, after going over my corn with a compost of bone-dust, ashes, plaster, and salt, I thought it would start them so nicely, that I would go over them with the same; so I did. To my surprise, it killed every plant. I tell you, for a spell it was hard to tell whether I belonged in the Growlery or Blasted Hopes, or both.

Tekonsha, Mich., July 20, 1880.

M. G. HAKES.

GATHERING SEEDS OF HONEY PLANTS.

As the flowers of the Spider Plant blossom each day, the seed also ripens in the same way, and the only way to gather it is to go around every day or two, after the seeds get so ripe as to shell off readily, and shell them into a tin pan or pail. In this way a boy or girl of 10 years will gather a pailful of seed a day easily. We shall be able to furnish the seed this season for not over a dollar a lb. Demand and supply will likely settle about a fair price. I think a lb. without doubt would furnish plenty of plants for an acre. It grows nicely on any good corn ground. We gather the most of the Simpson seed by shaking the branches over a large, tin dish-pan. At the close of the season, the stalks are gathered and threshed. Catnip, hoarhound, and motherwort seed are gathered by girls in the same way,—shaking the branches over a large dish-pan, and then separating the leaves and sticks by a sieve.

FRIEND JEFFREY'S IDEAS ABOUT QUEEN REARING, ETC.

A "TALK" FROM A REAL, LIVE BEE-MAN.

I HAVE just been looking over GLEANINGS, and I see, on p. 333 of this month, that A. W. K. speaks of two queens of retarded development, and those insignificant, flat, and ill-shapen cells, and dark, small queens. Yes, I guess so too, or know so for certain from the last 4 years' experience in Italian queen rearing.

JUDGING OF QUEENS AND QUEEN CELLS BY THEIR LOOKS.

In 1877, a number of my friends (bee-keepers) wanted queens from a very nice queen that I owned, and I saved every cell. When I found a little, dark, waspy-looking thing, she generally stayed in a nucleus till I had a cell to take her place, and every time they left a good supply of eggs, and not often some of the combs were put into other hives to help keep up their strength. No one liked them; but, being of the thick-headed class myself, I noted these instances to be used at some time, if I wanted them, and concluded they were evidences that the Italians were like fowls of two colors, which are just as likely to throw one away as "tother," but "taint allurs" one way. These variations, in most cases, are possessed of some very desirable qualities, and those qualities seem to be very apt to be perpetuated if carefully handled. In 1878, I had one of these sports that was of a jet and shiny black. I had raised fully 100 queens from her mother, all of them satisfactorily uniform except her. She mated and laid like an extra good one, and lived a week or two in laying order till I had a spare cell, when I went to kill her; but she got away and stayed awhile longer in existence. I finally caught her to show to a friend, and intended to make sure of her extermination, but she flew away again and went back into the hive, and by the time I next looked, her brood was hatching, and they were the lightest, brightest, and gentlest bees I ever saw; but, just as I began to like her, she got up and went off, I "do no whar." Now I have another, the daughter of an imported queen, and I don't believe one person in 100 would take her as a gift. She is, in fact, too homely to live; but she is as prolific as she is homely, and her bees are just as handsome as any need be. This is the fifth case I have had a chance to notice in two years.

QUEENS THAT KEEP LAYING DAUGHTERS IN THE HIVE WITH THEM.

By the way, how about that \$10.00 for the daughter of an imported queen raised in the hive with her mother? We can just fill that order "just you bet." I'll tell you how. About two weeks ago, I opened a hive containing an imported queen (it belonged to a neighbor of mine), to get some brood; and, on the second comb looked over, I saw a laying queen. I caught her, and clipped her wings short off to keep her at home. We then looked over the 3d and 4th combs to find some brood just to suit, but without success. The 5th comb was fdn. that had been in about a week, and there was another fertile queen, caught in the act of laying; and, on close examination, I found the cell she came from. "How is that for high?" Also I know of 4 different queens, more than 3 days old, found in the hives, with their mothers, which were all good, strong, prolific queens. What do you say to that? There were others that

saw every case, so "In the mouths of two or three witnesses," etc.

Now about those flat and ill-shapen queen-cells: I have flattened some on purpose to see what the effect would be, but it did not have much effect, unless smashed flat enough to kill.

HOW FAR DO QUEENS GO FOR FERTILIZATION?

On p. 336, this month's GLEANINGS, I notice from what you say to G. H. McGee, that you, like many others, believe that the mating is done less than 40 miles off, and I say a *great deal* less; in the majority of cases, less than 40 rods from the hive. There are at least 6 witnesses besides myself who can testify to one case less than 40 ft. from the hive. We also know of some more that must have been close home. For three years queens have been raised within half a mile of from 6 to 13 very strong, black stocks, that raised thousands of drones, and out of about 150 queens only 3 have been known to miss-mate. Of over 75 queens raised within $\frac{1}{4}$ mile of from 11 to 15 strong, black stocks in box hives, only one was known to miss-mate. Have plenty of drones in every nucleus, and I'll warrant you the young queens don't go far from home for fertilization.

QUEENS LOST IN THE MAILS.

I see in your note on page 346, in answer to R. L. M., that you infer that the queen might have miscarried or lost in the mails. I could give you facts concerning an employee of Uncle Sam's, who is of the lordly opinion that people that don't think as he does are of no account, and have no right to live. I have seen him take pains to throw the mail bag, when it had queens in it, with more than necessary force, and through his care (?) one cage was split, and the queen and bees lost; but he don't do so "some more now," though there are too many that like to do such things, just for fun, to plague somebody.

MUST THE BEES OF A PURE QUEEN NECESSARILY BE ALL ALIKE?

If A breeds a light strain, and it is strong blooded, and B has a dark strain producing dark drones, and it is equally strong blooded, a cross of the two, in a great many cases, will cause a variable worker progeny, that will show from the very light, clear yellow to the dark, copper brown, and will make 99 in 100 declare they are hybrids; yet they are Simon-pure. This is the law with everything else, and when I say it's the same with bees, I state simple facts, and I know whereof I speak. Try it faithfully, and facts will prove the truth. I have seen these apparently black workers put on the window, and they would show good, full-width, copper-colored bands, and more than one disputant has owned up after a good thorough examination. Variableness is to be expected in everything that is parti-colored, and strong blood will tell both ways indisputably sure.

H. L. JEFFREY.

Woodbury, Conn., July 10, 1880.

The idea friend J. advances in regard to pure bees being differently colored is one that is occupying considerable attention of late. As it is quite certain that the queens in Italy do not produce bees all just alike, why should we be so desirous to have them do so here? Without doubt, by selection in breeding, we can come pretty near to it, but what would be the object, when we might just as well breed from those that would gather most honey instead?

THE HONEY CROP IN WESTERN MISSOURI, ETC.

OUR yield of honey has been solely confined to the linden, or basswood. Fruit bloom and early flowers only afforded food for the bees and young brood. By judicious distribution of surplus in some of the hives, we were able to keep the queens busy and stocks flourishing without much extra feeding during the month of May. Some few colonies cast swarms, but white clover yielded only a scant subsistence, and, up to the 10th of June, our best colonies showed a daily increase of only a single pound in weight,—the very strongest only $1\frac{1}{2}$ lb.

THE VALUE OF BASSWOOD AS A HONEY PLANT.

On the 10th of June, the linden flowers opened, and for ten days furnished the most abundant yield ever known. The average increase of each one of my 80 colonies during that time was $7\frac{1}{2}$ lbs. per day. After June 20th, they at once dropped to $4\frac{1}{2}$ lbs., then to 3—2—1—0 of increase, and have added nothing to their stores since; indeed they have actually fallen behind,—a favorite colony weighing to-day 10 lbs. less than it did July 1st. In short, the basswood has furnished our only surplus. I have extracted upwards of 3,000 lbs., and taken 565 lbs. of section box honey. The sections have all been sold for 15c per lb., and some of the extracted for 12 $\frac{1}{2}$ c. Heretofore, the home market has been partially supplied with honey from farmers, or fence-corner honey raisers; by which I mean those persons who set their bee hives in some out of the way place, and never look to them except to rob them. The sad experience of the past two years has removed that source of competition, and nice, comb honey sells readily to dealers for 15c.

Some years we have a good yield of honey in the fall, sumac, golden rod, and Spanish needle being the source of supply, each in its turn, in favorable seasons, furnishing excellent forage for a couple of weeks. Buckwheat never amounts to much in this latitude, while catnip, smartweed, and the late asters always furnish something. During the grasshopper year, our bees did not swarm until Aug. and Sept., and then collected sufficient stores for winter. I notice inquiries about honey from corn, and my testimony is adverse to it. Hundreds of acres of corn now in bloom are around us, and are full of bees, but still no surplus comes to the hives. If corn tassel produced honey, surely some of it could be found.

SECTION BOXES AND SEPARATORS.

Surely the 1 lb. section box is a perfect success. Our dealers give united testimony to the beauty and ready sale of the honey. And here let me say that I have entirely discarded separators. Out of nearly six hundred boxes, I have only had two united by the comb, and that was when one of the starters had fallen down. Heretofore, I have been troubled by bees building one comb thicker than another, and causing it to project or bulge into the adjoining section; but such has not been the case this year. The great activity of the bees during the abundant yield of linden honey undoubtedly had something to do with it, but I was careful to have my starters reach from the top, very nearly to the bottom of each section, cutting them in the shape of a key-stone, and attaching them to the top piece with wax, before putting the section box together. I use no rosin and have had but a single one out of 600 fail. The machine for inserting starters is simply the fin-

gers; the receptacle for the melted wax, a tin pie-plate adjusted at a convenient height in front of you, with a burning lamp underneath; a board on your lap with a few dozen starters and an equal number of top pieces thereon completes your outfit. You can just touch the top of the starter to the melted wax, and place it erect and firm on the top piece in a "double quick." It is surprising to note the short time required to adjust 100 of them. I believe, if bees can reach the starter without climbing, that they will make the combs equal. In upwards of 500 out of nearly 600, they have furnished sections weighing a little over 1 lb.; a few, 1 lb. and 1 oz.; and a very few a trifle more; not one weighed $1\frac{1}{4}$ lb. I glassed a few for samples, but could not glass all, and the only advantage of a separator would be to enable them all to be glassed; while the disadvantages are expense, trouble, and diminution of product.

DECOYS FOR CATCHING SWARMS.

I noticed in one of your numbers a device for inducing swarms to alight in a gourd shaped log, covered with refuse wax and rosin, and suspended in, or under, a tree in their vicinity. As this looked feasible, I took a couple of Indian clubs which my son had brought from the academy, and besmeared them as directed. I adjusted them conveniently in my apiary, and felt sure they very much resembled a clustered swarm. Of course, I expected every new swarm to go straight to one of them and cluster. Your correspondent had so written. But my bees were not so simple. I have had nearly fifty swarms issue,—sometimes eight or ten in a day, and sometimes two or more at a time, but "nary" swarm went to either of said decoys. So please mark said device *unsubstantiated*.

S. W. SALISBURY.

Kansas City, Mo., July 21, 1880.

The "Smilery."

This department was suggested by one of the clerks, as an opposition to the Growlery. I think I shall venture to give names in full here.

TAKE me right out of Blasted Hopes at once, and put me in the Smilery, or some other cheerful place, for I have to-day had a genuine, Simon-pure, bona-fide, natural swarm of bees, the first one for two years; and it was from a stock, too, that I divided only last week. I could not believe it was so, until I had fully examined the parent stock. The cultivated honey plants begin to tell sure.

A. A. FRADENBURG.

Port Washington, O., Aug. 17, 1880.

Novice! you old beeswax! what did you put me in "Blasted Hopes" for? I've not "Made Bee Culture A Failure." Honey crop a failure, not me. Since that date, the bees have filled their hives, and stored considerable in prize boxes. It has been rainy for the last ten days, but, should it clear up warm, we may reasonably expect more honey.

MRS. L. HARRISON.

Peoria, Ill., Sept. 8, 1880.

I humbly beg pardon, my friend, but you know we must have somebody in the Blasted Hopes, and I thought the rest might feel better, to have so distinguished and capable a person as yourself in their company. "Misery loves ——" you know. I think the report you send this time will do very well for

the Smilery; and perhaps this will make amends for my past indiscretion in putting you in Blasted Hopes; will it not?

HOW TO UTILIZE A POUND OF BEES,

AND A HINT ON INTRODUCING QUEENS.

THE three queens shipped on the 28th came through all right. The pound of bees accompanying them were so well supplied with provender that they built several pieces of comb in the cage while on the way, and had sugar left. They came on the 6 P.M. express, and before dark I brushed a hybrid colony off its combs into the grass, and let the pound of bees and their queen have sole possession of hive and brood during the night, while the hybrids clustered in the grass, with only the starry heavens to protect them. By morning the Italians had accepted the situation, and the return of the queenless colony created no disturbance.

I gave Dr. Hall one of the remaining queens, and now had only one left to care for. I removed the queen from a populous black colony and inverted the cage over the frames, where I left the queen until the next morning. I then liberated her and closed the hive for an hour, when I found my queen in the midst of a ball as large as a turkey's egg. I then recaged her until evening, when I brushed the whole colony off its combs and into the grass, as I did the hybrids before. The Italian queen was liberated among them at once, and all remained out over night. They were returned to the hive the next morning, and I have had no further trouble. This manner of introducing queens is an old one with me, and by far the most successful way.

The year 1880, thus far, has been an unfortunate one for bee-keepers in Southern Kansas. Dry weather has prevented a yield of honey, and bee-keepers who do not feed their stock will come out at the "little end of the horn" next spring.

W. MCKAY DOUGAN.

Independence, Montgomery Co., Kan., Sept. 12, '80.

Many thanks, friend D. You have struck an idea I never thought of before. It is true, I have made bees stop balling their queens by shaking them off their combs into an empty hive, but your plan of shaking them in the grass at night, so that the new comers will have time to occupy the combs before they get in is a decided novelty, and I have no doubt but that it will work beautifully.

MEETING BETWEEN THE DRONE AND QUEEN.

A VERY FULL ACCOUNT FROM AN EYE WITNESS.

ICAN not say whether the following account corresponds with that given in "A B C of Bee Culture" or not, as I never saw that book; but I will give it to you as I saw it, and you can compare them yourself. When I first saw the queen of which I will write, she was on the alighting board, and I thought perhaps she had come out for her wedding flight; so I stood by to watch her. Now I might say right here, that she had been given to this hive of bees, in the cell, 12 hours before she hatched; or, I gave her to them at night, and in the morning I found the cell torn open on the side, and,

on farther examination, found the queen all right; that is, I found her alive, but her wings looked somewhat torn and cropped, and this is the reason that I could follow her so well in her flight. I was also assisted by a good pair of target glasses. When she went into the air, she flew very slowly at first, and did not rise more than 30 or 40 ft. high. She circled around just over the hive three or four times before she was joined by the drones. They joined the circle on the opposite side from the queen, and kept that up for several seconds. Then, all at once, the queen shot out to the right, and across the circle. When she had about reached the center, she was joined by a drone from somewhere on the opposite side of the ring. As they came nearer each other, they kept whirling around each other as if they were carried up in a whirlwind, their circles coming closer and closer together, until they mingled in complete confusion. For one instant they whirled together as though they were one. The next their heads were in opposite directions. One body seemed to be revolving in one direction, and the other in another. In this position, they came towards the ground very rapidly. When within about 15 ft. of the ground they separated, the queen shooting outward and upward, carrying with her a white thread-like appendage. I did not watch her, but turned my attention to the drone. He did not fly away, as I expected, but came directly to the ground. Poor fellow; he was used up. Although I upset one bee hive, and knocked the cover off from another, and pretty nearly dislocated my neck over grape vines, I never lost sight of the drone, for he fell within ten ft. of me. He caught just above the ground on a weed, but fell off. He made two or three tumbles first one way, and then the other, then tried to stand on his head; but he seemed to have lost his balance, for he could not stand at all; so he rolled over in the ditch, curled up, kicked first one leg and then with the other, and died. I am keeping his body as a relic for his posterity.

W. C. HOWARD.

Chelsea, Iowa, Sept. 13, 1880.

CALIFORNIA BEE-KEEPING.

No. 4.

IDO not think 4x4 sections exactly suitable for this State, as they do not hold enough honey to be worth 25c, which is the smallest change that is plenty here; and, as Californians are very careful about paying too much merely for the looks of a thing, we thought best to make our smallest sections large enough to hold about 1¾ lbs., so as to sell readily for the aforesaid 25-cent piece. I also think that a 35-cent box and a 50-cent box would be quite salable.

We have been trying our hand at making thin fdn. for sections, out of the whitish-yellow wax we get here, and I tell you we can almost see through it. We also find that fdn. run 12 ft. to the lb. is suitable for brood frames when put on wires. In order to make my 5-inch mill more handy, we take off the wooden top bar, and it works better without it.

We have tested the queen nursery to put over the frames, to our utter satisfaction, and pronounce it a splendid failure. The broad frame of cages is also a failure, unless we keep a card of unsealed larvae on each side of it, to induce the bees to come close to it, so as to keep it from chilling during the very cool nights here.

The *Lippia nodiflora* is growing stronger and spreading farther every day, and is covering the ground with a perfect mat of green foliage decorated with a multitude of small, white flowers. It is now yielding honey constantly but slowly.

Instead of sending for tested queens last spring, when we wished to Italianize our bees, we sent to J. D. Enas, of Napa Co., Cal., for 4, dollar queens. They were all of the leather colored class, and all proved to be purely mated, and we have now many of their hybrid daughters laying.

We think it will be better not to ship much honey to San Francisco, till the glut from the lower counties is over, and the market more settled in regard to prices.

I think the basswood queen cage a perfect gem, and it is not very likely to be smashed in the mail. Our P. M. can not find any thing in the Postal Guide in regard to the ruling of the P. M. G. about mailing queens. Please tell us where we can direct him to find the law about it.

O. S. Davis.

Lemoore, Tulare Co., Cal.

If your P. M. will look at the Feb., 1880, number of the Postal Guide, page 45, section 235, he will find the ruling in regard to mailing queens.

PACKING HIVES FOR WINTER ON THE TENEMENT HIVE IDEA.

I HAVE just been reading in GLEANINGS Dadant's method for wintering bees, and, although he is a distinguished bee-keeper, I have the boldness to say, I think I have a better method. I take boards 16 ft. long, and make a box, or I will call it a house, wide enough to receive the hives and leave a space of 4 or 5 inches for packing. Eight hives can be placed in this length of house, with suitable distance between the entrances. I place pieces of board cut of suitable length, and about 4 inches wide, up and down on the front of the house, to form a division between each two hives, with a board on their tops extending along the length of the house, which protects the entrances from sun and rain. It will be seen that the bees can fly out whenever the weather will permit, which I think is an important item in wintering them. I put a piece of burlap on the top of the frames, and pack with chaff or fine straw, covering the top 6 or 8 inches deep.

As yet I have spoken only of wintering, but I am trying the experiment of keeping the bees in their houses all summer. In handling them, I raise the cover, which is hinged to the front side of the house, and put a prop under it. As I stand on the back side of the house, the cover, thrown up, protects me against stings from the front. In working my bees in this manner, I save the expense of both bottom board and cover, and also save the trouble of lifting them out in the spring, and in again in the fall. Another advantage in handling bees in this manner is, the shade and opportunity for ventilation in hot weather. Ventilation is accomplished by raising the cover a little, by which I can graduate the temperature of the hives considerably.

I find that these houses furnish an excellent condition for bees in the spring. By keeping the packing in until settled warm weather, and the entrances small, the warmth of the bees is retained, although the weather may be cold and changeable, and breeding goes on rapidly, while spring dwindle-

ling, that fearful trouble of the bee-keeper, I think will be avoided in a great measure.

The experiences of the past season have rather confirmed me in the above described mode of wintering and summering my bees. The results of the past season with me have been rather favorable, when compared with bee-keepers generally. I have taken off 1,225 lbs. of comb honey, from 36 colonies, and nearly doubled my stock of bees.

J. C. CARPENTER.

Cherry Creek, N. Y., Sept. 1, 1880.

Your plan can hardly be called new, friend C., for tenement hives have been illustrated in our back numbers, on almost the same plan. The house apiary also embodies pretty much the same idea. The objections are that your hives are a fixture, and many find it inconvenient to be prevented from walking all round a hive, myself among the number. The arrangement will, no doubt, winter bees excellently, for the protection is even better than most chaff hives. I decidedly prefer to have the covering left on all summer, where honey and not queen rearing is the object. Your report speaks well for your plan, during such a season as this.

EXTRACTED VERSUS COMB HONEY.

AS the season is now about over, reports seem to be in order; and, as I like to know what others have been doing, I will report. The number of my colonies last fall was 43; the number this spring, 43; increase this summer, 13,—3 natural swarms, and the remainder artificial.

There was no white clover. Basswood yielded honey only two or three days, but the bees filled the hives full enough to last until fall harvest commenced, which was about Aug. 15th. From that date until now, I have taken 700 lbs. of extracted honey from 20 stocks that were set apart last spring for that duty. The remainder of the apiary, 23 stocks, were run for comb honey. I gave them sections filled with natural, drone comb, which I cut out of my combs last year for this purpose, all nice, clean combs. Now the result is "nil," or nearly so,—only 25 sections filled, and 50 or so about ½ full. Had I run my entire apiary for extracted honey, I might have had at least 700 or 800 lbs. more honey. It is evident to me that I do not understand the art of getting comb honey. My bees are in good condition for winter. All have plenty of sealed honey to last over.

A great many queens have been lost this year. As many as six old colonies lost queens and failed to rear others, so I had to buy them. I got four of O. Foster; three of them were fair, and one was almost black, still she may prove all right..

QUEEN CELLS ON DRONE COMB NOT ALWAYS A FAILURE.

Now a little yarn: I had a lot of queen cells built on drone brood. After it was time for queens to hatch, I looked at them, and was tearing these cells out, when I found that one cell had a nice queen in it. I had torn the cell down, and had the queen by the head, but uninjured. I gave a queenless hive a good smoking, and dropped her in, and now she is doing good service.

B. F. PRATT.

Dixon, Ill., Sept. 12, 1880.

A VISIT FROM FRIEND TAYLOR.

QUEEN CELLS; SELECTING THE BEST.

FRRIEND TOWNSEND, on p. 323 of July GLEANINGS, speaking of selecting queen cells, says, "Choose the best ones to leave." Will he please tell us what he considers the best?

I confess, friend T., I feel somewhat as you do, like asking how we are to tell which cells are best; for some of the finest looking queens have emerged from the smallest and most insignificant looking cells I have ever seen. I think it very necessary however to have cells contain a plentiful amount of royal jelly, if we wish good and vigorous queens, and we therefore want the cells built in strong, thrifty, vigorous, working colonies.

DOES DISTURBING BEES IN WINTER AFFECT THE CONSUMPTION OF STORES?

M. A. Gill, in July GLEANINGS, says that some bees are small eaters. Don't you think that "tinkering" bees during winter makes them consume more stores than they otherwise would do? Don't you think that setting hives where the sun shines on them in winter, thus causing the bees to fly out every warm day, makes them consume more than if they were kept in a shaded place?

I think it very likely, that disturbance in winter would make the bees consume more stores than they would if left in quietness. The influence of the sun shining on the hive might make the bees consume more, and rear more brood; but, even if they do, I think I should prefer to have the sun strike them. The hives in the house apiary are almost entirely in the shade, as it were; but, as a rule, bees have done better outdoors in the chaff hives.

WHERE THE BEES GOT THE HONEY.

I have noticed that a great many bee-keepers whose letters have been published in GLEANINGS, say they do not know where their honey comes from. I always feel disappointed when I read an interesting letter telling of a fine flow of honey, when the writer either says nothing of where the honey comes from, or says he does not know.

I agree with you in this, also. If a sudden flow of honey came to our apiary, especially at a time when I did not expect it, I would find out where it came from, even if it did take considerable hard work to follow the little fellows.

QUEENLESSNESS; HOW TO TELL IT BY THE APPEARANCE OF THE TOP OF THE COMB.

Sometimes you experts talk as if you liked to mystify us. For instance, in Aug. GLEANINGS, p. 387, speaking of a stock that was supposed to be without a queen you say, "I raised the mat and took a look at the tops of the combs and said, 'Why, this stock has a queen.'" How could you tell by just "looking at the tops of the combs"?

I assure you I did not mean to mystify, my friend, but I thought you would understand how I knew, without my taking space to explain that. Where you see new, white comb, right over a dense cluster of bees, you may always be pretty sure that there are eggs and brood underneath it, even though you have had good reason to think the hive queenless. Just watch and see if you cannot tell, too.

STORING ALL THE HONEY ABOVE.

I have a colony of blacks that store honey in the upper story, which is filled with 1 lb. sections, while their combs in the lower story are nearly empty. They have filled about one-half of their sections, and built comb in many of the others, and it is the only one of my colonies that has stored any surplus yet. I have a strong notion to raise drones from this colony to mate my young Italian queens with. What do you think of the cross? We might develop a strain of bees that would store all their honey in supers, except what they needed for current use. In that case, we can well afford to feed them pure, white-sugar syrup for their winter use.

I keep my bees in the regular, ten-frame, L. hives, all the year round. One out of 4 died last season, but the one that died was a 4-frame nucleus, and it died of sheer starvation.

Your arrangement of the different departments in GLEANINGS is admirable as far as it goes. Bear in mind that I am licensed to write you long letters, and criticise your excellent publication, for you have time and again told us to do so. You have the "blasted hoppers," swindlers, growlers, boys, ladies, and honey, all nicely divided off and sorted; but I have always noticed that reports of beginners are invariably thrown in promiscuously. Start a beginners' column.

JAMES G. TAYLOR.

Austin, Texas, Aug. 13, 1880.

It is a fact, that blacks and hybrids, much more than pure Italians, are disposed to store their honey in the upper story, or even in the case of sections above. And this has been considerably talked about, too. While some consider this a desirable trait, others do not. I have seen hybrids put almost every lb. of their honey into the sections during a large yield of honey in the fall, and then they would have to be fed or they would starve; while the more prudent Italians put none in their boxes, but had the combs below literally crammed, and bulged into every interstice. They would winter without care, while the others would not. A cross with the blacks would assuredly correct this, but many would not care to have it corrected, especially those who use the extractor. I agree with you, that you could well afford to feed the sugar, but a great many do not want that trouble.—Thanks; but we all have so much to learn that, in one sense, we all are beginners; are we not, friend T.?

Bee Botany.

OR HONEY PLANTS TO BE NAMED.

GIANT HYSSOP.

ARE you aware that there are two varieties or species of the figwort which produce honey?

I have two varieties now growing in my garden and apiary. The species are quite distinct, and both of them are superior to the spider plant. The latter produces nectar only early in the morning and late in the evening, while both species of the figwort are crowded with bees all day long. The variety which you call "Simpson honey plant" has a mug-shaped flower, and seed pods similar to flax "bowls;" while the other variety has spikes, or heads, like wheat or barley, minus the beard; and

the bloom is white and small, coming out at each receptacle, much like the bloom of wheat, but much more perfect, the flowers being nearly as long as those of the gooseberry or coral berry. To see the bright Italians probing these tiny white flowers all the day long is refreshing to the lovers of the beautiful. If you have never seen the last named variety, I will take much pleasure in sending you some seed at my own expense, when the seeds are thoroughly ripened.

G. W. DEMAREE.

Christiansburg, Shelby Co., Ky., Aug., 1880.

To be sure, we want to know all about any plant that has even a remote relation to our favorite Simpson Honey Plant, and we accordingly wrote friend D., to send us fragments of the plant, and some seed as soon as possible. Almost before we had time to expect them, we received a stalk and leaves, almost exactly like our own Simpson Plant; but the bunch of flowers was nearly like a head of wheat, only it was a square head, in stead of a round one. Enough ripe seed shook out of the heads, while we were looking at them, to plant quite a little bed, and into the ground they went at once. Strangely, the seed, too, looks exactly like the seed of our common Simpson Plants. The following card came with them:

By to-day's mail, I send you some sections of some of the honey producing species of the figwort. For convenience, I selected the smallest specimen I could find. You may get a glimpse of the little white flowers. These spikelets, or heads, have been blooming for 4 weeks. I mean the same heads which I send you. They have the curious habit of throwing out a few fresh blossoms every day. Hence the flowers, though perishable, keep up a regular succession. Dr. Killich, in his "Dictionary of Facts," says that there are 21 species of the figwort. Doubtless there are more of them which produce nectar.

G. W. DEMAREE.

Christiansburg, Ky., Aug. 30, 1880.

Now see how Prof. Beal upsets all our "speculations:"

This is Giant Hyssop, *Lophanthus nepetoides*. It belongs to the mint family with sage, bergamot, catmint, etc.; while *Scrophularia nodosa* (Figwort) belongs to another order. I am sorry you bee men have seen fit to give new names to old plants which already had good names, both common and scientific. By Simpson plant you mean figwort, I suppose, or guess. The plant above referred to is like one sent some weeks ago.

W. J. BEAL.

Agricultural College, Lansing, Mich., Sept. 3, 1880.

Thanks, friend Beal, I presume you are right about coining new names. By the way, this reminds me that we have a book of pressed specimens of honey plants, which one of our girls made, and we have the names and all that has been written in GLEANINGS right on the page with them. Well, this book has got so voluminous that we often, of late, trouble our kind friend Beal, with plants that are already named and described, as in the case mentioned above. We are going to try to do better after this. As the seeds are now up, we are going to have some Giant Hyssop, and I presume it will bear just as much honey under that name, as if it were really a new figwort.

Here is another report of the same plant:

You will find enclosed the top of a plant, that

grows here in small patches, and the bees seem to be perfectly insane over it. Please tell us what it is, and what it is worth as a honey plant. I have not noticed it until this fall, but for 2 months my bees have been at work on it.

D. E. ROBBINS.

Hesperia, Oceana Co., Mich., Sept. 1, 1880.

Prof. Beal:—I send you some plants to be named. No. 1 we call Bonaset, but if it is Bonaset, it surely does not secrete honey here. No. 4 also, which I am told is Golden Rod, is in the same fix. The last three specimens are full of bees from morning till night.

Sunman, Ripley Co., Ind.

E. B. VINCENT.

The samples sent were as follows: No. 1, Bonaset; No. 2, Helianthus [sunflower family.—Ed.]; Nos. 3 and 4, Golden Rods; 6, Aster; 5 and 7, two species of Polygonum, closely related to buckwheat and smartweed. The writer perhaps has observed that, in wet weather or in dry weather, white clover and many other plants fail to secrete honey to attract bees. So it is also with Golden Rod, Bonaset, etc.

W. J. BEAL.

Agricultural College, Lansing, Mich., Sept. 3, 1880.

MATRIMONY VINE.

I send you a few roots of a perennial vine which blooms from April until frost nips it in the fall, and of which the bees are very fond. It may not be of much value as a honey plant, but I am inclined to think it will prove to be one of the best we have in this part of the country. I am sure you will not grudge it a nook on your honey farm. We have had very dry weather for 6 or 7 weeks, but these vines bloom on, and are roaring with bees from daylight until dark. I examined the flowers just opening, at 2 o'clock to-day and found them filled with honey, although it has been a very sultry day, with a dry south-westerly breeze. It is a profuse bloomer, as the samples I sent you show, and, so far as I am able to judge, bears honey all the time. I have examined the flowers at various hours of the day, and in very dry weather, and find each flower, when just ready to open, containing a drop of nectar almost, if not quite, equal to that on the spider plant. The bees work on it all day, even when basswood is in the height of its glory.

Bean Blossom, Ind., Aug. 24, '80. E. S. ARWINE.

Prof. Beal on receipt of the flowers replies as follows:

The flowers are *Lycium vulgare* (Matrimony Vine), introduced from Europe but now common in old gardens, and waste places. It spreads rapidly and becomes a nuisance.

PROF. W. J. BEAL.

Lansing, Mich.

We have the vine in our garden, and in bloom; but perhaps it is too small to show any great activity among the bees on it as yet.

INDIAN PLANTAIN.

I this day send you a specimen of a weed that bees work on from early in the morning until night, even during the driest and hottest weather. We have other good honey plants, but, like buckwheat, they are only forenoon plants, while this, like white clover, is an all day plant; and, as it comes in blossom from the middle to the last of July, and lasts until frost comes, it is just what we want. You can smell the bloom, as you can the linn, before you get to it. You can get enough seed out of this sample to raise 200 plants, by planting or sowing them right away, on any kind of ground, as they grow here in a stone

wall among other weeds. They will grow in spite of other weeds, and, in fact, I believe they thrive best among weeds, as they grow from 2 to 6 feet high. I will send you some roots in the fall if you wish. If sown this month or next, it makes root enough to bloom some next season.

M. L. HOBBS.

Middleport, Meigs Co., O., Aug. 17, 1880.

We sent the specimen to Prof. Beal to be named, who replies as follows:

The plant is *Cacalia suaveolens* (Heavy Scented Indian Plantain). Gray says, "Rich soil; Connecticut to Wisconsin and south; rare; blossoms late in summer."

W. J. BEAL.

Lansing, Mich., Aug. 24, 1880.

Please name the enclosed honey plants. No. 1 is a good honey plant. No. 2 is still better, and has been in bloom two months. Bees work on it early and late. No. 3 is not yet in bloom, but will be in a few days, and will yield honey until frost. There is a great amount of it in this country. Bees are now doing well on sumac and buck bush. The latter has yielded honey in abundance for two months, and is the surest thing yet for honey. Buckwheat is just teeming with bees.

G. W. STITES.

Spring Station, Ind., Aug. 10, 1880.

No. 1 is Simpson's Honey Plant or Figwort. No. 3 is *Eupatorium altissimum*, one of the Bonesets. No. 2 we sent to Prof. Beal who named it "*Pycnanthemum lanceolatum*," a kind of mint, called in some localities narrow-leaved Basil."

VERBENA HASTATA, OR BLUE VERBENA, ETC.

Enclosed find leaf, flower, and spike, of a plant that bids fair to become noted for the honey it produces. A single plant standing in my garden has now been in bloom for five weeks, and will bloom until fall. This single plant engages from 12 to 20 bees from morn till night. A few acres of it would certainly be of great value. Can you give its name, and value as a honey plant? Motherwort has made a favorable impression here this season. Basswood flow was short, but heavy. The honey came in a perfect flood while it lasted. A young swarm that came off on the 20th of June had its ten combs built out from top to bottom in just 10 days.

Bloomdale, O., July 17, '80. R. B. ROBBINS.

The plant you sent is one that seems to be raging among my bee-keeping friends at present, as several specimens have been sent in. It belongs to the *Verbenaceæ* or Vervain Family, and the species is *Verbena hastata*, or Blue Verbena. The seed of it has been advertised in the list of honey producing plants for a good many years past.

I send you the flowers, seed, and also some small plants of a plant which grows in my garden, but I do not know the name. My bees have been at work on it, gathering both honey and pollen for nearly three months. The plant is quite hardy, living out all winter without any protection.

D. B. HALL.

Parkersburg, West Va., Aug. 7, 1880.

Prof. Beal, to whom we sent the specimens, replies as follows:

Plants sent are *Scabiosa*. It has no common name but Scabish. One species is called Mourning Bride. They belong to the teasel family.

Ag. College, Lansing, Mich.

W. J. BEAL.

INDIAN HEMP, OR SWAMP MILKWEED, ETC.

Editor Gleanings:—Inclosed please find specimen of honey plant. The only name I know for it is Indian Hemp. It is a plant that grows generally in wet, waste places, but I have seen it on dry, light soil. It blossoms just at the time when basswood stops blossoming. My bees just hum on it from morn till night, and I am satisfied they get considerable honey from it. But the honey of this plant, in my mind, is of secondary interest when compared with its other good qualities. You will notice the plant is very rich in "fiber," and of an excellent quality. The specimen of fiber I send is gathered from stalks two years old, perhaps, which have been run over by cattle and broken down; but the lint, or fiber, still clings to the old dry stalks. Now, can not this plant, that is so rich in fibrous material, be utilized in the manufacture of ropes, cords, linen, etc.? It occurs to me that sections of country where there is much wet, swampy land, if well set to this plant, might be made quite remunerative with its crop of honey, together with its fibrous material. The plant grows in bunches, or hills, with from 6 to 30 stalks to the hill, and from 2½ to 4 feet high.

I think it is admirably adapted for bridging over the space that occurs between basswood and buckwheat. I believe the plant is a relative of the milkweed, and perhaps would have, in a measure, the same fatality to bees; but, as the nectaries of the flower are smaller than those of the milkweed, of course the trap would necessarily be smaller, and I am satisfied that it has not the sticky substance that so tangles the bees in the milkweed.

I also send specimen of a shrub that grows and blossoms with the Indian Hemp. It is also a great favorite with the bees, and grows in bunches similar to the currant, from 3 to 5 feet high.

Friend Wilson and myself have taken 3000 lbs. from our 46 old swarms, and it is all basswood.

M. A. GILL.

Viola, Richland Co., Wis., July 24, 1880.

Prof. Beal kindly names the specimens sent as below:

The herb is *Asclepias incarnata*, Swamp Milkweed. The second, the shrub, is *Spiræa salicifolia*, or Meadow Sweet.

W. J. BEAL.

Agr'l Coll., Lansing, Mich., Aug. 20, 1880.

WHAT AN AUTHORESS THINKS OF MODERN BEE-CULTURE.

ALSO HOW SHE SUCCEEDS IN TRANSFERRING, AFTER AN EXPERT (?) DIDN'T.

THE following is from the pen of Mrs. Marie Howland, author of "Papa's Own Girl." The letter was not intended for publication, but I have obtained permission to use it. If I mistake not, it contains some very valuable lessons for even our veterans.

I have, I believe, read every No. of GLEANINGS, since I subscribed last December. I had never owned a bee then, but I meant to get some, and so I subscribed for your journal sending a dollar for Bro. Pressey (the largest bee-keeper in town) for the A B C. He has my GLEANINGS, and I borrow the A B C. I have so much need for it that I keep it borrowed most of the time. I must get me a copy out of charity to him. We commenced talking about the "new departure" in bee-culture last winter when we both read "The Blessed Bees" with

great interest. Mr. Pressey, as the result of an awakened enthusiasm, built him a beautiful apiary right in his flower garden, and transferred all his bees—some 13 or more colonies—to the Simplicity movable-frame hives. A professional was engaged for the first day, and I was present by courtesy to learn all I could; for by that time we had got three colonies of black bees in old boxes on our place.

I shall never forget that first day of transferring in that pretty little apiary. It is, I think, about 12 feet square, and, long before the day's work was done, it was the most sickening looking place,—honey "swobbed" pretty much every where, and the floor literally black with dead bees! My whole business all this day was rescuing bees imprisoned in honey. The next day the work had to be continued without the professional, and I boldly offered to go down and help. I got there quite early, but Bro. Pressey had swept and washed the floor thoroughly, and every part of the building was in exquisite order, as it had been, indeed, the previous morning. We both agreed that we could transfer bees in a neater way than it had been done the day before, and that with less murdering of bees; and the experiment justified our belief. My part of the work was fitting and tying the comb into the new frames, and helping hunt for queens while getting the colonies into their new Simplicities. It was certainly a hard day's work, and I got one or two stings. The previous day there had been none. The professional wore a bee veil; the rest of us, nothing. I do think that transferring bees is one of the most distressing, dirty tasks imaginable; but it is such a pleasure when all is done.

A week before I had had my first experience in hiving a swarm. It was the first time I ever had touched a bee. They hung on a low mulberry bush. I just put the Simplicity on a chair under them, removed the cover, and with a soft velvet brush swept them down on the frames. My success was perfect in every particular, only I did not see the queen. I was too excited to think of but one thing,—getting the hive closed and on its stand. How good the little pets were! The next week, we transferred, uniting without any trouble one weak, queenless colony with a strong one. One colony was taken to a neighboring town, where it is to be Italianized and commence queen raising, I believe. I have therefore two, fine, large, colonies,—one with a second story, and we have had more honey than we could dispose of, except by giving some away. The merchants here sell the pretty little pound section frames. Mr. Pressey will send to you, to-day I think, for these little sections, and for fdn. for him and me. By and by we are to have Italian queens.

So much for two of your New Jersey A B C class.

MARIE HOWLAND.

Hammonton, N. J., July 1, '80.

FRIEND KEERAN'S STORY.

HERE is another vote for the cartoons. Let us have a good one every month. Only last night, I had almost an exact duplicate of friend Merry Banks' dream in Aug. No. of last year's GLEANINGS, where he dreams he was invited to speak at a bee-keepers' convention. I was making (to me) a splendid speech, when I was awakened by the cry, "O Jamie!" and beheld my wife sitting up in bed, wanting to know what I had hit her in the face for. Everything was plain. I told her my

dream, and we had a good laugh, but it was some-time before I could go to sleep. The last thing I remember, I was thinking how happy I would be to have 100 chaff hives on a nice plat of ground, all arranged in hexagonal form, and each of them bringing in honey at the rate of 63 lbs. per day, as they do in S. C. Whew!

Last fall I had 20 swarms, and doubled back to 18. These I packed in chaff. All came through to spring nicely, when one queen proved to be a drone layer. I pulled her head off, and united her bees with another swarm. These 17 came through splendidly to apple bloom, from which they gathered considerable honey, and built up fast. White clover proved to be winter-killed, and basswood was a failure. Few swarms have gathered enough to winter on, and, as they seldom gather any more than they consume after these are gone, I was thinking I would have to write you a letter for Blasted Hopes, especially after examining a strong swarm about the 10th of Aug., and finding not over 3 lbs. of honey, and that not sealed. Thought I, "Here goes for a good feed." So I spread the frames that they might store considerable more than they would need for themselves, which would do for others. I then got my feeder ready, but I had no feed prepared. As it was late, I put off making it till morning.

UNLOOKED-FOR BLESSINGS.

The next morning I was on hand early with 10 lbs. of coffee A sugar for their first meal. Just before I commenced to make my syrup, my mother asked me if I had noticed how busy the bees were that morning. I told her I had not, and thinking they might be "on the rob," I went out to see. The first one I noticed was the one I was preparing to feed; and, sure enough, there they were dropping down like grains of corn, they were so heavily loaded; they were going in so fast I could not count them. I went around to every hive, and they were all just as busy. Thought I, "I'll not make that feed just yet; maybe this means business;" and so it did. The swarm I was going to feed has now got its hive so full that they have crowded the queen for breeding room. Another hive I can't weigh on steelyards that pull 110 lbs. I have taken only a small quantity of section honey, as I had given up all hopes of taking any, and therefore was not prepared for the rush.

HEART'S-EASE AS A HONEY PLANT.

This honey came from Heart's-ease, and is very good. I had three, three-frame nuclei, and by giving them empty frames they have gathered enough to winter on, which is all my increase. I wish I had some of the bees that friend Blanchard (of Wis.) is going to kill. I could accommodate about a dozen swarms very nicely with frames of solid sealed honey. I will go into winter quarters with 20 swarms, and no queens much over a year old, except one, and this one I thought the bees had superseded; but to-day I found the old queen in the hive. Send me a queen for this hive. I would like to compare her with my young queens that I have raised from the queen that I told you about on page 338, Sept. No., last year's GLEANINGS,—the one of which you predicted that, if I attempted to rear queens from her, I would find the old, black blood cropping out every now and then. Contrary to this, every queen has been as large and bright as any Italian queen I ever saw. I would like to have you see some of the queens and bees, which I have succeeded in breeding from bees that were almost black in the summer of '76. I would send you a queen but I haven't an extra one in my apiary, and it is getting rather late to rear any, I think. Taking the season through, it has been the poorest we have had for several years. If it had not been for the honey flow in Aug., few swarms would have been left around here by spring, unless fed.

J. W. KEERAN.

Bloomington, Ill., Sept. 10, 1880.

Bee Entomology.

Or Enemies of Bees Among Insect Tribes.

MALLOPHORA BOMBOIDES.

PROF. A. J. COOK:—I send an insect for your inspection, respectfully asking that you name it, &c. I have observed, as well as my professional duties would permit, the habits of this Bee Dragon. Early in the morning, I find him concealed,—snoozing I suppose,—on the under surface of some broad leaf. As soon as the bees get to flying, these insects are also on the wing. They seize the returning, laden bee, in their strong claws, and at once alight on some firm object, as the trunk of a tree, a post, or a stake. They then, with their powerful mandibles, bite a hole fully 1-16 in. in diameter on the upper part of the back of the bee's abdomen, and proceed to empty the victim, under which process, of course, he dies. This emptying process occupies probably from 3 to 5 minutes. He now releases the dead bee, and takes wing to seize another. I must say, however, I never could follow one with my eye so as to be sure that the second depredator was the same rascal I had seen before, or so as to form any idea of how many bees one of them could empty. I do not remember what day they first made their appearance; but, in general terms, it was over a month ago. During rainy weather, I don't see them; and when we have a heavy dew they don't stir much until the sun has dissipated it.

GEO. H. WADDELL, M. D.

Coronaca P. O., Abbeville Co., S. C., Aug. 20, 1880.

Prof. Cook replies as follows:

This is *Mallophora bomboides* described in GLEANINGS, 1879, p. 14, and *Manual of Apiary*, 5th edition, p. 268.

A. J. COOK.

Lansing, Mich.

THE STINGING BUG AGAIN.

Enclosed in a piece of wood, I send you a dead bee which I found on an artichoke leaf, with the accompanying insect apparently preying on the lifeless body. Is it an enemy of the honey bee?

DAVID STRONG.

Lincoln, Lincoln Co., Tenn., June 11, 1880.

Prof. Cook, to whom we sent the specimen mentioned above, replies as follows:

The insect is the *Phymata erosa*, which is no inconsiderable enemy to our pets of the hive. This pest is fully illustrated and described in my *Manual*, 4th and 5th editions, p. 293.

A. J. COOK.

Lansing, Mich.

A NEAR RELATION TO THE ASILUS MISSOURIENSIS.

Last week, while viewing the bees on the buckwheat, I saw an insect pounce upon a bee, and then fly away and light; so I watched to see the operations. By the movements, I judged that it punctured the bee with its bill, and sucked the honey out of it, as I can not see how it could eat them. I should judge there were a thousand or more of them around that buckwheat patch, and if each of them thinks proper to make a dainty meal out of two or three bees a day, it will be quite a drain on the apiary. I will send you by mail three of the depredators. If you know their name, please give it in the next GLEANINGS, with their manner of breeding if it is known, so that they may be destroyed if possible.

Polo, Ill., Aug. 15, 1880.

ANTHONY STONER.

Prof. Cook to whom we sent the specimens replies:—

The two flies are *Promachus bastardi*. These flies look much like their near relatives *Asilus Missouriensis*, and, like the latter, are great insect destroyers, and are found widely distributed. The insects of this entire family are very predacious, and are nothing loth to take bees. I have been absent one week, and upon my return find five different species of them from different states, sent me for name.

Lansing, Mich., Sept. 3, 1880.

A. J. COOK.

THE A B C CHILD THAT GREW SO FAST.

SOMETHING ABOUT THE GREAT FLOW OF HONEY IN WISCONSIN.

I AM satisfied that my bees were too warm in the cellar, and had not enough ventilation. They bred up all winter, and consumed all the honey in doing so. I am satisfied further that it injures bees to be confined 5 months without a fly.

You seem to think it a besetting sin that I should say my bees worked out fdn. in 8 hours. I wrote you of it Aug. 5th, '80. That was in an upper story where I was having fdn. drawn out for new swarms. Four days later, the same thing was done in 2 hours, in a lower story of a strong nucleus, the facts of which I reported to the *American Bee Journal*. I know it is a big story, but I find many things are being performed in a great honey flow, that are never attempted at other times. There has been one continuous flow of honey from May until the present time, and still it continues. It might seem large to tell you that a swarm hived July 13th, and weighed July 31st, showed a gain of 79 lbs., but it is nevertheless true. This is not in my apiary alone, but go anywhere in this county, and you will find black swarms outside the hives building comb, and, in some instances, I have helped take 25 lbs. of honey from under projections of the hive. You speak of my reports of a year or two ago, etc. Well, I am satisfied with my figures, and with the amount of honey I have taken, and with the price I am selling for; but when I read of people raising plants for bees to work on, it surprises me; and then that they get 30 or 40 lbs. of honey in a season, when I can take that amount every 15 days. If you think I jump at conclusions too quick, please come up and help weigh up what I have on hand, and help take off what is ready to take off; and, if you come before frost, I will insert a sheet of fdn. in some young swarm, and you may see it pulled out in 2 hours. I should be pleased to have some one else report to you from this vicinity if they will. E. A. MORGAN.

Arcadia, Wis., Sept. 3, 1880.

You have rather misquoted the substance of my comments on your last month's article, friend M. You will see, if you look at it again, that it was your decision in regard to the L. frame I thought hasty, and not what you said about the flow of honey. I should enjoy it most rarely, to make you a visit while the honey was being built on the outside of the hives. Seventy-nine lbs. in 18 days is not a very unusual yield; you know I mention in the A B C 43 lbs. in 3 days in our locality. I know that our yield is small, even with the plants we raise; but as the plants keep things lively at a season when we should otherwise have next to nothing, I think the plants pay. If you had 300 stocks in your yard as we have, you probably would not get so much per colony.

Heads of Brain, From Different Fields.

"HONEY FOR SALE (?)"

I HAVE waited patiently for the time when I could put up, in my door-yard, one of those small signs having on it the words, "Honey for sale." But, up to this time, my hopes have been vain; my bees refuse to furnish any surplus. I give them plenty of room, but they persist in lying out. I fear it has become hereditary with them. I thought that they certainly would be coaxed to fill those nice sections in the honey crate I got of you this spring, but they have not.

There are no bee journals taken in this vicinity, and one cannot make the people believe that they are of any benefit. The only bee-keepers of any note near me, are Dadant & Son, near Hamilton, Ill., about 15 miles off. Many people keep a few bees here, but mostly in box hives, and never see the inside of the boxes. Some of them do not believe there is such a thing as a queen bee.

I have twelve stands, and by the help of chaff cushions, and candy made of flour and sugar, wintered them all without loss. Now, if you can tell me how to make them profitable, you will confer a lasting obligation. I read GLEANINGS each month, and get much information from it. If I could make bee-keeping pay, I would like to keep a hundred stands. My bees have given me no increase this season.

HENRY J. ALVIS.

Montrose, Lee Co., Ia., Aug. 29, 1880.

I think you are on the right road, friend H., and that all you need to do is to hold on. Go and see friend Dadant, by all means. I would go four times 15 miles to visit his apiary. If he has no honey either, this season, of course you need not be discouraged; but, if he has, why then learn how he managed.

"HONOR TO WHOM HONOR IS DUE."

I feel that we owe the Post Office Department a big vote of thanks for their promptness in forwarding queens. We have had three shipments of queens this season, and in every case the queens came before the notice of the shipment, and came through invariably in about four days from Ohio and Michigan. You queen breeders also as a general thing are just as prompt as you can be.

Cassville, Mo., Sept. 1, 1880.

MARY A. TERRY.

All right, friend Mary, and much obliged to you for calling attention to the matter. We do owe them a vote of thanks; that is so. And, while we are about it, I rather think we owe another vote of thanks to mother Cook, and others who helped the matter of getting permission for queens to go in the mails, to its successful termination.

BOOK "LARNIN," VERSUS BOX HIVES.

Our honey yield is about over. I averaged this season, about 107 lbs. to the colony. An old "box-hive" bee-keeper told me, a few days ago, that he had taken from one colony, four eight-lb. boxes of honey this year! He gave me this information in an exultant tone, as if he thought he had "crushed" me for good. A few days afterward, I saw him again, and getting him "cornered," I coolly told him,—

"Well, friend B., I yesterday took off the last surplus boxes from one of my hives, and it foots up, from this particular hive, 127 lbs. in beautiful, one-pound sections."

Although this was a positive fact, friend B. broke rudely away, leaving one of his coat buttons in my hand, and exclaimed "Geminy! Christmas!" Of course, friend B. thinks, to put it mildly, that I was romancing on a grand scale.

R. C. TAYLOR.

Wilmington, N. C., Aug. 30, 1880.

BALLING THE QUEEN; IS IT DANGEROUS?

I let out my queens almost as soon as I got them, and the bees received them without much fuss. They balled one or two of them a little, but I kept the smoker going. Now a question or two: What harm do the bees do in balling a queen? they don't sting her. I have had a queen balled for hours at a time, and then run around all right as soon as freed; and I never lost one from being stung while introducing. But it does look as if she would be stung, when she first emerges from the cage, and two or three wicked bees pounce upon her. Well, anyhow, Mr. Root, I don't want them to double themselves up in that way on my nose, for I have tried the thing and do not come out of it in as good a temper as the queen apparently does.

Pawnee City, Neb., June 19, 1880. C. R. MILES.

But they do sometimes sting them to death, friend M., and that, too, right speedily. I have known the bees to ball them, and keep them thus a whole day; and when they were let loose, they were minus a wing or a leg, but did good service after all that. The maimed and wingless queens we often find in hives, I think are from this balling at some period of the queen's age.

A "SWARMING" FLAG.

Please tell that man that clubbed his bees with stove wood, next time to prepare a flag, by getting a pole similar to a fishing-rod, about 15 or 20 ft. long, and attaching a width of factory cloth about 2½ yds. long. Make the pole crooked so it will turn readily in the hand (or better still would be two swivels), and, my word for it, they will soon make up their minds to alight; that is, if he swings his flag vigorously in the front part of the swarm.

Will you please tell me, if heavy swarms of bees will be too warm packed in chaff on three sides, and cushions on top, in a house apiary, with the front of the hive to the open air. Also how large an entrance should they have?

MRS. JANE COLLINS.

Romeo, Macomb Co., Mich., Sept. 2, 1880.

P. S.—Much obliged for your picture in the journal, but would rather see the original walking in at the door.

JENNIE.

Now, there is an idea for friend Hutchinson, with his banner apiary. If a swarm started off, all he would have to do would be to take a flag from a hive, and just "flax it around" among them. If more swarms came out, he could let his wife take a flag too; and so on.—I do not think, friend Jennie, it will be possible to make bees too warm in the winter, with chaff packing, while they have the entrance open as they have in the house apiary.—I would a great deal rather walk up to the door too; but there are so many doors, I fear I should never get around, even if I started out.

DOLLAR QUEENS REARED LATE IN THE FALL.

One of those queens I received from you last Oct. is worth all and more than the cost, but the other is far from being pure. That, however, is all right. Dollar queens are dollar queens. If it hits, all right; if not, no growing.

ITALIAN BEES WORKING ON RED CLOVER.

If some of those fellows who say Italian bees are no better than blacks had been here during dry weather in August, and seen the yellow bees on red clover, and bringing honey by the—not quite car loads, while the blacks were simply living from "hand to mouth," and now must be fed or die, I guess they would "draw in their horns." Comb honey is worth here 25 c. per lb. H. BRENNEMAN.

East Germantown, Wayne Co., Ind., Sept. 14, 1880.

HOW TO PREVENT QUEENS FROM FLYING WHEN INTRODUCING.

I have successfully introduced six queens, which all came in good order from W. Z. Hutchinson's apiary. I used that tent you describe in GLEANINGS, or, rather, one similar to it. Three of them flew up against the tent, but I could catch them easily and put them back into the hive again.

JOHN REYNOLDS, JR.

East Clinton, Kennebec Co., Me., Sept. 13, 1880.

Well, I declare, friend R., you have hit the nail on the head. I have been wondering for some time what we should do to prevent the losses that occur from queens flying off, but it never occurred to me that the tent would do it, although our boys have been using them constantly while introducing, to keep away robber bees. We do not want to clip our queens' wings, and we don't want to daub honey on them; for, in the latter case, if they should not be received they are in a bad predicament.

PRETTY GOOD FOR A 3-FRAME NUCLEUS.

Last May I bought of J. C. & H. C. Sayles, of Hartford, Wis., a 3-frame nucleus. I brought it home and the bees went to work. I got 30 lbs. of surplus honey from them. About the 20th of July I sold S. C. Miles, of this place, a 2-frame nucleus, and he now has 2 colonies of bees from that nucleus, making 3 colonies of bees and 30 lbs. of surplus honey from one 3-frame nucleus. Let any one beat that if they can, with the blacks or hybrids either.

THE 3 BANDS ON BEES JUST HATCHED.

Please inform me if young Italians have more than one or two bands; or are the three bands on them when they come out of the cell? I think perhaps my young queen has become fertilized by a black drone, as all my young bees have one and two bands on them now.

G. PHILLIPS.

Stetsonville, Taylor Co., Wis., Sept. 15, 1880.

It is rather difficult to see the bands on young bees just hatched, and I would not therefore want to pass judgment on a queen until her bees are three or four days old. Still, with practice, one may tell pretty accurately the first day the young bees begin to bite out of their cells, when a pure queen has met a black drone.

ANOTHER WHO HAS COME FROM BLASTED HOPES INTO THE SMILERY.

I have been sadly discouraged with my bees. I have watched them pretty closely all summer, and they have made only just enough for breeding, and my hives are now full of bees. We have passed

through one of the severest drouths I ever witnessed in my life, and I have lived in this county 43 years. Our corn crops will be less than one-half the usual amount raised in this section. Don't understand me that the drouth has been general: there will be plenty of corn in other places. Within the last 15 days we have had several of the heaviest rains I ever saw fall, and the bees are on the "boom." To-day I examined my bees, and found every frame full from top to bottom,—not an empty cell, but very little of it was sealed. I gave them some frames of comb for the queen to continue laying.

SMARTWEED HONEY.

They have made it out of smartweed, which is abundant here. My bees have fully enough to winter on, and I am happy. I lost 23 out of 24 last winter, but I could not give up the idea of having bees, so I bought five colonies, and have increased to 13. I bought 4 weak colonies in box hives for \$1.50 for the lot. I found two of them queenless, so I doubled them and have two fair colonies. I can buy late swarms in box hives from 50 c. to \$1.00 each. I have plenty of honey, and will buy all I can get hold of. My honey is not fit for table use, as it has a strong, biting taste. I have now 16 colonies.

F. M. JEFFREY.

Waynesville, DeWitt Co., Ill., Sept. 6, 1880.

WHERE PROPOLIS COMES FROM.

I think that I have discovered how and where bees gather propolis. May 10th, 8 o'clock A.M., I was planting corn, and a very loud humming of bees attracted my attention. I soon discovered quite a lot of them on a hickory-tree that was too young to bloom. I concluded that I would make an effort to find out what had attracted them to that tree; so I mounted the fence, and from that to the branches of the tree, and seated myself in a position to watch their movements. They would commence at the base of the young leaves, and appeared to be clipping the under side of the stems with their mandibles; and when they reached the leaf proper they would poise themselves on the wing, as they do when gathering pollen. I could not see anything in their mouths, but, after some time, I could discover the appearance of propolis in their pollen-baskets. I think, from my observation, that it was slow work, and would take a long time to gather a load. If I had had a powerful glass, I could have discovered the propolis passing from their mandibles to the pollen-baskets. Will some bright A B C scholar work out this problem?

S. H. LANE.

Whitestown, Ind., Aug. 24, 1880.

TRANSPLANTING THE SIMPSON PLANTS.

One error you made in Aug. GLEANINGS I wish to correct right here. You say that the Simpson Honey Plant is a rather hard thing to transplant. On the other hand, it is one of the easiest plants to transplant I ever saw,—just as easy as cabbage plants. I have transplanted about fifteen hundred grown from seed this season, and do not think I have lost a half-dozen of them. I have handled them all the way from two inches to six inches high, and at all times from June until to-day, and they seem invariably to thrive better after being reset than before.

A. A. FRADENBURG.

Port Washington, O., Aug. 16, 1880.

I have discovered my mistake, friend F., for I, too, have been transplanting them all summer, and now make them grow without

a bit of trouble. During this dry fall weather the young plants are now bearing nice little crops of honey.

THIEVES IN THE APIARY.

Mr. Editor:—With your permission, I will tell W. Z. Hutchinson how to rid his apiary of thieves. In the first place, always give the boys all the honey they want to eat every time they call to see you. Get them to eat all they can, and, in a short time, they will not care enough about honey to steal it. We have always succeeded in this way, and have never lost a lb. of honey, nor had a colony disturbed. If this fails, then you may rest assured that the thieves do not belong to your neighborhood. So we give you remedy No. 2. Go to some good dog breeder, and buy a genuine, English, bull dog. Build him a "shingle, chaff, tenement" kennel, somewhere near your apiary, and see to it that it is painted up nicely and kept as neat as your bee hives. Give him to understand that his business is to watch your property, and that he must make friends with no one. Give him plenty to eat, so he will not be tempted to stray away nights. If treated and trained well, we think you will have no reason to complain. But should he be tempted to sleep on duty, give some sure footed and courageous boy half a dollar to "wake him up" some dark night, and if thieves don't give your apiary a wide berth, please send us a postal.

F. L. WRIGHT.

Plainfield, Mich.

QUEEN CELLS NOT ALWAYS AN INDICATION OF QUEENLESSNESS.

I feel as if I should not be doing my duty to you, if I did not write and let you know how we got along with the last queen received from you. As you may remember, I wrote you, telling you of our apparent want of success in introducing a queen to a strong colony of black bees. They chased her off after she was let out among them, and she flew away, and we had no idea of ever seeing her again; so I wrote you for another queen, which arrived in due time. When we opened this hive to put in the cage, we noticed queen cells which seemed to confirm our idea of loosing the queen which flew away; but, on looking further, lo and behold! there was the old lady quite at home, only twice as large as when we tried to introduce her. How she got in there, and how she made her peace with the little savages is more than we shall ever know. The character of these black bees seemed to change soon after letting in an Italian queen, and we can open and look them over with much less trouble. Another quite interesting time we had with the last queen received. On opening the box we found every bee dead, and the poor queen had evidently turned her face to the wall, and given up all hope. But I noticed some signs of life in her, and set the cage in a warm, sunny spot, and in ten minutes she had changed her mind, and began to run around the cage. What to do with her was the question now. As an experiment we took two frames and bees from the gentlest Italians we had, and put her between the frames, and soon had the pleasure of seeing the little fellows feeding her. We have given them brood, fdn., etc., and it bids fair to become a strong colony before winter. Allow me to thank you for your promptness in sending; also for the splendid queens received, every one of which has proved more than satisfactory.

F. A. & J. C. BALLER.

Bloomington, Ill., Sept. 15, 1880.

MORE THAN ONE EGG IN A CELL HATCHING.

Please allow me to say that more than one egg may hatch in one cell. At the beginning of the yield from basswood, the queen in one of my best swarms decided that bees were wanted in a hurry, and began laying from two to six eggs in a cell. Of course not all of these hatched, but I saw several cells with three larvæ in them, and more with two. I think they were about 24 hours old. Just when the surplus ones were removed, I cannot say; but when the cells were ready to seal, there was only one in each cell, and they hatched out perfect workers. After the first three or four days, the queen dropped back to the good old way of one egg in a cell, and has kept it up since. I have had little surplus honey, and no swarms except a couple of artificial ones, because my swarms were very weak, and light in stores in the spring.

Dayton, Ill., July 22, 1880.

JAMES A. GREEN.

Thanks, friend G. Since my remarks on the matter, we have found several cases, where two or more live larvæ were found in a cell, but, as you remark, but one was to be seen when they were ready to seal up.

WINTERING THREE COLONIES IN ONE CHAFF HIVE, ETC.

We have had a good yield of honey from the white clover, and now the basswood is in bloom, and I am getting at least something back from my bees for the time and money I have spent. I am not out much money however, as I make almost everything I use myself. I am making some chaff hives by hand. I do not find it such an awful job after all. I got straight siding for the outside and though it cost more than the rough lumber (\$20.00 per M.) it is cheaper for me in the end. The lumber for one hive costs me \$1.00. I am going to make 2 entrances in the upper story, and try wintering 3 swarms in a hive. How do you think it will work? It would be quite a saving, and I like the Simplicity best for summer use.

C. B. THWING.

Hamilton, Mo., July 2, 1880.

Your plan of wintering is not new, friend T., and I believe it has worked well, where sufficient care has been taken to see that there was no crack or crevice where the bees might get through, or even communicate from one apartment to the other. The collective warmth from the three stocks so near each other is doubtless an advantage, but the great drawback is in having at least the lower one, where it cannot be easily looked at, for at least 4 or 5 months. If they all have an abundance of stores, and also an abundance of bees, this may not matter very much, but most people prefer, in the end, to have every colony where it can be easily overhauled and examined.

AN A B C "BOY'S" REPORT.

I came out this spring with 17 swarms, 13 heavy and 4 very light. They have made 300 lbs. of section honey, and increased to 35 very heavy swarms. I have no extractor, or I could take 300 or over of nice clover honey from the hives. They are all so full that they are crowded for room to raise brood. How will this do for an A B C boy, forty years old, and the first season, without any capital to start on?

R. P. LOVEJOY.

Greig, Lewis Co., N. Y., July 12, 1880.

ANTS FOUND GUILTY OF STEALING EGGS.

On page 10, of the "A B C of Bee Culture" you say, "I cannot find that ants are guilty of any thing that should warrant the apiarist in waging any determined warfare against them." Now, I will give you my experience. This summer I made a nucleus swarm, and introduced the queen, which they received all right. A few days after, I made another nucleus, gave them a queen, and they killed her. I gave them another and they killed that one. Then I put a frame of comb in a colony, and after it was filled with eggs put it in the queenless nucleus. Two or three days after, I took it out and the eggs were gone! That was a poser. But, on looking at the bottom of the frame, there was a small black ant with an egg in its mouth. The mystery was solved. Then, examining the first nucleus, I found on the inside of the two combs where the bees clustered, a spot on each the size of a silver dollar, filled with brood; the balance of the combs were empty. I put the hive on small blocks with dishes of water under them, and the combs soon filled with brood.

Climax, Mich., Aug. 29, 1880. J. E. PIERCE.

INTRODUCING BY AN A B C SCHOLAR.

I introduced the queen without trouble. I have introduced ten queens this summer without previous experience or observation, and, by following A B C, have had but one balled, although I introduced a virgin queen 8 hours old to a stock from which I had removed the queen but 5 minutes before, and did not cage the virgin at all.

Bean Blossom, Ind., Aug. 24, '80. E. S. ARWINE.

41 DAYS TO INTRODUCE A QUEEN.

Now about those queens: You will notice that it is 41 days since we took them over. One stand of Mr. Wilcoxon's shows nearly all nice Italian bees. The other showed no trace of Italians, and as he had never touched the hive since liberating the queens, and knew but little about them, he supposed they must be queenless. But, from their actions, I told him they were surely not queenless, and we would see. So we proceeded to investigate. His hives have the old L. honey board, and, for convenience, after we had taken out the black queen, we placed the little cage containing the Italian queen on top of the frames, so it could be taken up and opened without removing the honey board, showing him how to open the little cage, etc. He had opened the cages, as he supposed, and placed them back, to allow the queens to walk out at their leisure. This one, however, he had failed to open; and when I opened the hive, there was the little cage, queen and all, and, from all appearances, the queen was just as lively and healthy as when we put her there. The hive contained plenty of honey and pollen, and the combs in the centre of the hive were trimmed up all ready to receive the eggs, showing that the little fellows were waiting with all patience for the queen's liberation. I gave them a comb from another hive, containing brood and eggs, liberated the queen, and told Mr. Wilcoxon there would be one happy little home that night.

S. A. SHUCK.

Bryant, Fulton Co., Ill., Aug. 31, 1880.

DIPPING FOUNDATION.

With regard to the fdn. machine, it did cost me a severe struggle to keep still; but the demonstration of the fact that God will plead the cause of those who submit it to him, even though by the pen of a distant stranger, is worth more to me than the "hon-

or of the invention," or the \$100.00 either. The call for queens has been such that, although I had hoped to do so, I have never had time to experiment farther since my machines were burned. My success so far with the machine is described on page 109, March No.; but I hope, before long, if the Lord sees fit to give the time and means, to show the brethren a dipping machine that will roll out thin *wired* fdn. "a mile long" *at one operation*. Now, my friends, you may *all* try it first, if you wish, and welcome; but please don't quarrel over it. OLIVER FOSTER.

Mt. Vernon, Iowa, Sept. 4, 1880.

HOW LATE IN LIFE MAY A QUEEN BE FERTILIZED, AND BECOME A PROLIFIC QUEEN.

I see in GLEANINGS that there has been some query as to how old a queen can be and yet become fertilized, and a good, prolific queen. I will give my experience in the matter. The first of March I noticed that two of my colonies were queenless, and had queen cells formed and capped. In a few days the queens were out, and I watched carefully to see if they would become fertilized, as there were but few drones, and the weather was rather cool. I watched until the afternoon of the 24th day after hatching, when I saw evidences that the queen had mated; and, on the second day after, she commenced to lay, and proved to be a very prolific queen.

HOW YOUNG A QUEEN CAN LAY.

On Monday, Aug. 2d, I had a swarm about 9 o'clock in the morning, which clustered. I caught and caged the old queen, and then opened the old hive to cut out and destroy the cells. I had found and cut out one, when I noticed that the cap was partially loose. I took the knife and raised the cap, when out walked the queen. She was rather large, and finely shaped. Having a few nuclei that were without queens, I took her to one of them, and let her run in at the entrance. I looked at her in about an hour and found her all right. The two following days she was there all right also; and on Thursday, the 5th of Aug., about one o'clock, I looked again, and she was laying, and had a space as large as my hand, full of eggs, it being 3 days and 4 hours from the time she came from the cell. I have raised several hundred queens, and these are the two extremes.

HENRY H. LAWRENCE.

Columbia City, Whitley Co., Ind., Sept. 2, 1880.

TOO MUCH BROOD IN A HIVE.

You say that you never saw too much brood in a hive at any season of the year. I am sure that I have, and this unseasonable brood rearing is the only thing that ever troubled me in the bee line.

I have had colonies commence rearing brood about the middle of July (the terminus of the honey season), and consume all the stores they had, and swarm, leaving a hive full of brood. It has always worried me to see a great horde of bees raised to be hatched at a time when there was no honey to be gathered. My queens are now laying steadily, as there has been sufficient honey coming in to keep up moderate brood rearing. I have had a "test colony" since the honey season closed, and they have made a living. I think that my bees will be in better condition for winter than they ever were before. I am putting in young queens as fast as I can raise them.

ABSCONDING SWARMS.

If bees have a location picked out before swarming, no amount of brood will induce them to stay.

I always clip the queen's wing, but this will not prevent their trying to go. I have known them to go to a tree and go in and stay half an hour without their queen. On one occasion, I had to cut a tree before I could get them to stay at home.

LEREOY VAN KIRK.

Washington, Pa., Sept. 1, 1880.

You say, friend V., that they consume their stores in raising a lot of useless consumers; is not a pound of bees worth more than a pound of stores? Bees should certainly be worth 50c a lb., it seems to me, at any season. If a hive has too many, divide it; but I do not know that I ever saw too many in one hive, that were the progeny of a single queen. Give them plenty of stores, and have a rousing colony to begin with in the spring. Rousing colonies are a grand thing for almost any purpose, either queens or honey.

I commenced the season with 4 Langstroth, and 4 old box hives. I had Italians in one of the L. hives, from which I have raised some 20-odd queens, and also got 21 frames (that is, of brood and honey), and have increased my number to 16 colonies, all of which are in condition for winter, although honey is coming in lively from buckwheat and Iron Weed. By the way, our father-in-law has a shrub growing in his yard, which beats any thing I have ever seen to yield honey. We call it "Pride of London." It commences blooming in May, and is still blooming. The bees are on it from morn till night, whenever it is not raining, and just as thick, too, as you ever saw on Simpson Honey Plant.

J. W. SHULL.

Pleasant Dale, Hampshire Co., W. Va., Sept. 1, '80.

ROCKY-MOUNTAIN BEE PLANT, ETC. SOME VALUABLE FACTS.

The Rocky Mountain Bee Plant grows plentifully here. Mr. O. B. Smith brought seed of it from Colorado, and sowed in his garden 21 years ago, and from that it has spread 20 miles up and down this river. It affords lots of honey. The apiary here is storing honey fast, while the others 3 and 6 miles above here, where this bee plant is not so plenty, are not doing near so well. With the exception of a rosin weed and *Monarda*, the Rocky Mountain Bee Plant is furnishing all the honey they get now. The early golden rod is blooming, but they don't work on it yet. Could any amount of the seed be sold? I have employed some of the boys and girls to gather it for me to take to Kansas, and they wished to know if there would be sale for it and the Simpson honey plant and the *Monarda punctata* seed. I don't think much of the Simpson honey plant. It is not so good as buck bush (*Symphoricarpos vulgaris*). It may do better if cultivated. It seems to me that, with the Rocky Mountain Bee Plant, mellilot clover, rape, and buckwheat, a man ought to do a fair business in getting honey.

W. S. VAN METER.

Smithland, Iowa, Aug. 28, 1880.

GIVING COUNTIES, ETC.

You are right about our not giving the county. You just scold until we all obey orders. I can find most of the counties by referring to the U. S. map, but I don't like to do so, for the print is so very fine that it takes sharp looking. But now, after all, this is just the way I got your county,—by the map. If you had a map as large as one side of your factory, it would be nice to see where we stay.

Well, well, honey is coming in at last, just as you told E. A. Gastman it would some time. I had given up getting any this season, but, if it continues coming, I will have some extracted honey, though not much in the comb.

A. GRABILL.

Oakley, Macon Co., Ills., Aug. 31, 1880.

A WORKING COLONY OF BEES WITHOUT ANY HIVE AROUND THEM.

Some weeks ago, one of my neighbors came in just at night, and asked me if I had lost any of my bees. I went with him, and he showed me a monstrous swarm about 8 ft. from the ground, under a large horizontal limb of an apple tree in his garden. I told him they were not mine, as they were black, while mine are all Italians. Then he wanted me to have them for him. After getting an old, box hive ready (he had no other), I took my hiving box, and attempted to brush them off into it. To my surprise, I found the bunch was solid with comb. I then smoked them so that I could see the combs, and found there were six. The center ones were filled with brood mostly capped over, showing that they had been there since some time in the spring.

The honey crop has been very light here this season. An experienced bee-keeper near here, who got as high as 60 lbs. from some hives last year (also a poor season) reports no surplus, or next to none, this year. I took from my one hive, 24 lbs. the 3d of July, and then divided it into three; but I will have to feed them for the winter.

ARE ITALIAN QUEENS SOMETIMES BLACK?

I have a young, laying queen, as black as the ace of spades (supposed to be), the daughter of a pure Italian. Her mother and sisters are a beautiful yellow, and the workers are all three-banded.

WM. O. POST.

Essex, Middlesex Co., Vt., Sept. 10, 1880.

The case you mention is not entirely new, several having been given in our back volumes. It seems to indicate that our honey bees, at some time in past ages, may have been in the habit of building in the open air; possibly in a warmer climate. A curious feature with these open air colonies is their method of shedding rain, by clustering with their wings in such a position that they act like shingles. Hence, even driving storms seem to harm them but little.—Italian queens, and drones, too, for that matter, may be almost any color, and still produce regularly marked worker bees. Ignorance of this fact has caused a great deal of useless complaining. The majority of the queens that come from Italy, are dark, and some of them fully as black as our common queens. Pure, common queens are also often so light, that one would call them Italians, without seeing their worker progeny.

MAKING BEES ACCEPT A QUEEN.

I have a very fine swarm of three-banded bees from the dollar queen you sent me about the 6th of July. It was my first attempt, but I had good success. The colony accepted her on the first trial. This gave me so much pleasure that I ordered another queen which came Aug. 13th. But this one I was very unfortunate with. I took her out from the centre of a ball of bees no less than three times, but I was determined that the swarm should be exterminated by old age, or accept my yellow queen. It was fully a week, however, before they came to my terms, and I can assure you I don't want another

such a task. This is my first year as a bee-keeper. I commenced the season with 14 swarms. I extracted from 7 swarms which gave me 568 lbs. of honey, actual weight. The best one gave me 114 lbs.; the poorest 70 lbs. My other 7 swarms I set to work on comb honey, and they turned out 250 lbs. But I do not feel discouraged, as I know nothing of the business except what I have learned this year. I increased my 14 colonies to 30, and now comes the task of wintering; but they are in good shape, for I can assure you they have not been neglected. I use the Novice extractor, which I consider a good one, and am a reader of GLEANINGS, although not a subscriber. I do not write this article especially for publication.

ORSON J. TERRELL.

North Ridgeville, Lorain Co., O., Aug. 24, 1880.

QUEEN CELLS; GREAT NUMBER FROM ONE COLONY.

We have had a poor honey season. My bees have had the swarming fever. I increased from 23 to 41, and put back about a dozen. I also had 4 or 5 buckwheat swarms, which I put back. I had a very large swarm about the 10th of August, which I returned, and killed the queen, a hybrid. I waited 6 days, and took out 86 large queen cells, and gave them a frame of brood and eggs, 9x11 inches, from my favorite queen. They built 40 cells with queens in them on that comb, and 6 more on their own comb; in all, 132. How is that "for high?"

H. H. FOX.

Tribulation, McDonald Co., Mo., Sept. 9, 1880.

QUEENS BEING FERTILIZED TWICE.

I have seen 15 or 20 queens come in with unmistakable evidences of fertilization. On June 19th, I saw one come in with evidence attached, and just 24 hours after I saw the same queen—no mistake—come in with the same evidence of fertilization again. She was a pure, but very dark, Italian, and now produces pure, rather bright, Italian workers, and queens some dark and some moderately so, but all brighter than herself.

HOW TO GET RID OF BLACK DRONES.

I suppress black *drones* in box hives, by moving hives every two weeks, and substituting a movable frame hive with 2 or 4 frames of brood in it, and a queen cell, and thus make a large part of my swarms. So also I make a certain number of box hives and black bees almost as useful as any I have. If you move them often enough, they will raise few or no drones.

G. W. YOUNG, M. D.

Lexington, Lafayette Co., Mo.

I have about 70 stands of bees in all, more than half of which are Italian. I bought an albino queen of Mr. Valentine, last spring, and have now about a dozen of her daughters at work in my apiary. I believe they are the gentlest bees I have, and are as good honey gatherers as I ever saw. The bees have done very poorly here till since the rains abated, 10 days since. They then began to work and have had lively times ever since.

INTRODUCING.

I have been experimenting on introducing queens, and the plan that causes the least trouble with me I will now describe. I first assure myself that there is no queen in the hive, and wait until they have built a few queen cells, and capped some of them over. Then I put the queen in the cage, and lay it gently on the alighting board, while I examine the inside of the hive, and remove all the queen cells that are started. The bees are making the acquaintance of the new mistress, and after the hive is

closed you will generally find the bees clustering on the cage on the alighting board. Wait a little while and witness their motions. If of a friendly character, you may take the queen in the hand and then hold it closely and gently to the entrance. If the bees crawl upon the hand and try to feed the queen, she is perfectly safe; let her go; and this will almost always be the rule. I have never lost a queen introduced in this way. I very often take the queen in my hand simply, and try her at the entrance of the hive. If they attempt to sting her, I take her away; but if they treat her kindly, she will remain nearly still, and when a few bees have thus formed her acquaintance she can be let go into the hive with safety. When the cells are all destroyed as above, they seem very anxious for a queen, and are very apt to receive her quite readily. I have found three hives this summer with two queens, and a neighbor has a swarm that persistently keeps two queens, and when he takes one out they forthwith raise another. Please tell us through GLEANINGS if this is not a freak. It certainly is not the rule.

Bedford, Ia., Aug. 11, '80. A. H. VAN VOORHES.

Your plan is substantially the one I recommend, friend V., only I do not advise you to wait until cells are capped over. Is not this wasting almost too much time, with a good colony? The secret of almost all these plans lies in the fact that a queen allowed to run in at the entrance of any queenless hive will be accepted in the majority of cases. You will remember that I told you, a short time ago, of letting 7 queens in at the entrances of as many queenless hives, and all but two were accepted. One of them was a black stock, whose queen had been taken out but an hour or two before, and they accepted the queen all right. In reporting on new plans, it is well to bear in mind these facts.—Two queens in a hive has been of late a fertile topic.

EGGS DISAPPEARING.

A dollar queen which I had introduced commenced to lay, and filled one frame of comb, made from fdn., full of eggs. In a few days, I looked in, and the eggs were all gone. What was the cause of this? I am putting frames of hatching brood in my nuclei to build them up strong. One of them came out every day for about 5 days, and left brood and honey. Its hive was new, and all nice and clean. I could see nothing the matter. There were $\frac{1}{2}$ gallon of bees, and the queen was fertilized and laying. Then I clipped her wings, and gave them another frame of brood and honey, and they seem now to have located. I have used "lots" of fdn., and the bees seem to like it, and I just like to work with bees.—Would you recommend me to use the chaff hive for this latitude?

M. P. CARTER.

Carlton, Kan., July 3, 1880.

I have seen eggs disappear as you mention, but it was usually to be explained by the sudden stoppage of the honey yield. Was it not thus in your case?—I think you cured your nucleus from swarming out by making it a little stronger in both stores and bees; but, ordinarily, I should not expect a frame of brood to help the swarming-out matter, where the nucleus had unsealed brood already of its own.—I would use chaff hives in your climate in winter, or anywhere, where ice freezes a half inch thick.

WHAT SHALL WE FEED FOR WINTER?

Will you please tell me what you would feed bees that have got just about half honey enough to carry them through the winter. Whatever I feed I have got to buy. I believe I have all of your works on bees, but do not exactly understand just what you have positively decided on. I enclose a postal card, and you will only need to say a few words. If you will do me that favor, you will much oblige me.—I have about 700 swarms of bees with about half enough honey to winter on. I. S. CROWFOOT.

Hartford, Wis., Sept. 14, 1880.

If I had 700 colonies with half enough stores for winter, I would supply the deficiency with frames of candy made of coffee A and best grape sugar in about equal proportions. If it is less trouble to you to feed it in the form of syrup, make the syrup as described in A B C under feeding,—HOW TO MAKE THE SYRUP. If you have large feeders, something like the tea-kettle feeders; you can have two barrels made into syrup and over the hives in about a half-day. If you feed them enough of this to last them until March or April, it will be just as well to give them grape sugar alone after that. I am taking it for granted that your colonies are all strong; weak colonies or nuclei may not be able to get up sufficient animal heat to melt the frames of sugar, so they can work it up. They may die with this feed, but they may also die with natural stores, as past reports fully demonstrate; but I think, if properly done, such stores are just as safe for winter as natural stores. I have made no mention of flour in the candy, for I have taken it for granted that the 700 colonies are all strong enough, and brood rearing is not particularly desired. Very likely the grape sugar that is made now would be safe of itself, but, to be sure of being on the safe side, I would use half coffee A, as above.

DO BEES "STEAL EGGS" FROM OTHER HIVES?

A little experience I had in queen rearing may look as though bees do steal eggs from other hives sometimes. I had a good nucleus which had been without fresh brood for nearly two weeks, when I took them a queen cell, and found that they had two acorn cups with an egg in each. Before I thought, I spoiled them, or I would have left them to see what would have come of them. I could not find another egg in the hive. I gave them the queen cell, and it came out in a day or two all right.

SPURIOUS QUEENS.

Now one other thing about queens "as ain't" queens at all: I have found two or three this season, all pretty much alike, little, black, shiny fellows—and the bees acting around them just as they do with a queen. I found one to-day in a nucleus, where I hatched a fine, yellow queen about three days ago, and could not find her to-day, though I looked carefully two times. The bees stood in a circle round this would-be queen, and crawled over her. I picked her up to see if she would try to sting, but she did not, till I mashed her head. There are no eggs in the hive. I guess they must be very aged bees, and the bees act so out of respect to them.

V. W. KEENEY.

Shirland, Ill., July 9, 1880.

I should be inclined to think the eggs were the work of a fertile worker, friend K.,

but it is certainly a little strange that they should be found in a queen cell, and no where else.—I have often, of late, had to hunt out these small shiny queens, before I could get a queen safely introduced to a colony which had been a long time queenless.

HOARHOUND HONEY.

I've got my foot in it now, sure. You know I stated (see GLEANINGS, July No., p. 331-2) that hoarhound honey was bitter. Well, I only stated what I knew to be a fact, for I had tasted it more than once, and I supposed everybody who had ever tasted of honey from the hoarhound plant knew that the honey partakes largely of the flavor of the plant. Well, to-day, here comes a letter from friend E. W. Morse, of San Diego, Cal., requesting me to give any facts to show that the quality of honey from hoarhound is bitter; for, he says, "It is quite a mooted question with some of us apiarists whether the honey is bitter or not."

In the summer of '74, I was in Missouri, and transferred a swarm of bees for a friend, and the honey we took from that stand was about as bitter as the average hoarhound candy we buy. When we looked for the cause we very soon found it; for the bees were in a lot that was covered thick with hoarhound. This was while the hoarhound was in the height of its glory, and there was little else for the bees to get, while it was so near that the bees did not have to fly far with it. I leave it for scientists to judge what chemical effect, if any, a longer flight of the bee with the honey in its sack, or the age of the honey after it is stored in the hive would have upon the flavor of the honey. But there is no accounting for taste anyhow; for, although I say that I know that hoarhound honey is bitter to my taste, others, no doubt, would eat the same honey and never detect any bitter twang to it. I must confess that I rather like it although it is bitter, and if the quantity produced is sufficient to pay for raising the plants, there is no doubt but that it will sell. JACOB COPELAND.

Allendale, Ill., July 20, 1880.

I am sure, friend C., I would much rather have it bitter, at least as bitter as hoarhound candy, for then we can advertise the honey as a medicine. Mr. Gray saw bees swarming on the plant on Catawba Island, in great numbers, and perhaps we might get some of the honey by sending there for it. We have a small patch of Hoarhound on our grounds, and it seemed to be fully as good as catnip. Since you suggest it, I feel very much inclined to have a nice field of it, and plant a few colonies of bees there just on purpose to store hoarhound honey for medical purposes. If anybody can furnish me some honey with the flavor of hoarhound candy, I hope they will send me a sample with price. I will pay double price for it to start with.

FUEL FOR SMOKERS, ETC.

Tell those who want wood for their smokers and don't know where to get it, just to take their ax and go to the woods, and knock a hickory stump to pieces, and they will find just as good as there is.

In '78, from two skips and a nucleus to start with, I made 300 lbs. of honey; last year, from 13 skips, I made only 100 lbs.; and this year from 12, I don't believe it will be as much. H. P. DEMOREST.

Warwick, N. Y., June 19, 1880.

A SUDDEN FLOW OF HONEY.

It has been very dry with us. Bees have not gathered a living for about one year, until the past 10 days. I tell my husband that it seems almost as if the windows of heaven had been opened, and honey sent to us to save our starving bees. They are now filling up for winter, and our 250 colonies perhaps have already $\frac{1}{2}$ or $\frac{3}{4}$ enough, mostly from old balm, pennroyal, and buckwheat. The buckwheat is so spindling and scattering, we thought it could do no good at all. Black bees have nearly all died out, except when fed. We are Italianizing all of ours, as each Italian colony proves itself worth 3 black colonies in a drouth. I think perhaps the yield was from a honey dew, at first, as they got such an abundance in so short a time, when there appeared nothing to get it from. Then the very spindling buckwheat has yielded bountifully.

MRS. S. J. W. AXTELL.

Roseville, Ill., Aug. 23, 1880.

QUEENS THAT WON'T LAY.

Last spring, the first of May, I had a colony of bees with a beautiful yellow queen, and not a cell of brood or eggs could be found. I pinched her head and gave them a frame of brood from another hive. I have just pinched the head of a queen because her eggs would not hatch, and have two more of the same kind in nuclei. Is it the fault of the bees or the queen? Would it be safe to introduce them to strong colonies? I have 30 colonies, mostly pure Italian. Bees have made but little honey. Fruit bloom yielded some, but our best flow came from red-raspberry and basswood. White clover was a failure.

J. W. WILSON.

Lottsville, Warren Co., Pa., Sept. 2, 1880.

I have known a few queens that would not lay, but the number is so small I think I should be pretty slow about pinching the head of a good-looking queen. They often stop laying, or refuse to commence, because their colony is small, or because no stores are coming in. I have known queens to lay finely in a large colony, that would not lay at all in a weak nucleus.

INTRODUCING UNDER DIFFICULTIES.

I received the queen from you on Thursday, 2d, and put her in a queenless colony, caged by directions, and on Saturday about 1 o'clock tried to introduce her to them; but "no go." She went down among the bees unmolested at first, but about half an hour afterward I found her balled. I released her, and gave them a considerable smoking, and thought they would desist; but about sundown, I went in again and found her still balled. I gave them another smoking more severe than before, and thought surely, as she was in a queenless colony, that they would accept her. I did not look at her on Sunday, but on Monday morning, when I went to look her up, I found her in a ball of bees, and nearly exhausted, with one hind foot bit off, and the colony going right ahead with queen cells (for I had been supplying brood in order to keep out fertile workers). I took the queen out, and caged her again; and, in the meantime, fed the colony at night to get them in a good humor. Tuesday morning I released her again, but with the same result. I tried her twice that day with no better success. I had exhausted all my knowledge, and finally took all their brood from them, and, in the evening, released her

again with same result, under all the rough tobacco smoking I could give them; so I concluded, as all my remedies had failed, that I would resort to a still rougher treatment. I just *chloroformed* that colony, and soon had them all down on the bottom board. Then I let the queen loose on an empty comb, and when the bees came to, they accepted that queen. Wednesday morning she was laying. I had taken up the idea that it would not be troublesome to introduce a queen to a queenless colony, but this colony disappointed me. Now the queen that I lost from this colony was taken out of another hive, and introduced to this one without any trouble or ceremony, except smoking, and that as soon as I had removed their old queen. I have introduced several queens, some virgins, to colonies this spring, but without any trouble; so I have come to the conclusion that it is the actions of queens more than anything else that causes the bees to reject them, and especially of those that have been on a long journey. I furthermore believe that the best time to introduce is immediately after unqueening a colony that is in the same apiary where the queen was raised.

J. D. FOOSCHE.

Greenwood, Abbeville Co., S. C., Sept. 9, 1880.

SPIDER PLANT OUTDONE.

The plant at last! Tea-cupfulls of honey from one plant is not too much. A bee must take three or four loads to clean one flower. It is the acassia, a shrub which grows from 4 to 6 feet in height, blooms from the first of June until frost, is perfectly hardy with us, and blooms first year from seed. It is a beautiful ornamental plant, and can be found in every yard in the neighborhood.

B. F. CARROLL.

Dresden, Tex., Aug. 17, 1880.

My one colony of bees is working like beavers. It is very pleasant to watch the workers when they are civil, but not so pleasant when one of them attacks you with his "business end," and makes you look like a recent attack of erysipelas, as they have served me quite lately. That kind of treatment lowers the standard of one's enthusiasm somewhat, at least temporarily. I am at present, however, the victim of "Great Expectations," which may dwindle to "Blasted Hopes," but I trust not.

J. M. MANWARING, M. D.

Mishawaka, Ind., July 6, 1880.

AN AGREEABLE SURPRISE.

The queen that I purchased from you in July is doing finely. I thought that I had lost her; for when I was trying to introduce her she escaped, and went up in the air, and I supposed that I was out \$1.00. I looked for her in the hive the next day, but could not see her. As I did not have any smoker, I did not look again for 6 weeks, and then I was happily surprised to see the yellow bees hatching out.

J. A. WILSON.

Hanover, Mich., Aug. 30, 1880.

RAPE CULTURE; REMEDY SUGGESTED FOR THE BLACK FLEA.

Try the following, with which I have been successful in the old country, against the *black fly* of the rape family: Mix as much coal tar or coal oil with sawdust as possible, and leave the sawdust so as to be able to sow it broad cast, at the rate of 4 or 5 bushels per acre. Sow this as soon as the fly makes its appearance, and repeat if necessary.

AUG. LEYVRAZ.

Palatka, Putnam Co., Fla., Aug. 26, 1880.

CONVENTION REPORT.

The North-Western Bee-Keepers Association was organized in this city on the 14th ult. Reports of the honey crop for 1880 seemed to indicate that the yield was about an average one. Indoor and outdoor wintering each had its advocates. All advocated good protection, but they could not agree as to what constituted good protection. There was some nice, extracted and comb honey on exhibition; also some combs that were no credit to the bees (?) that built them. I was very much disappointed in the implements shown there. They looked very bungling, but no doubt answered the purpose for which they were intended. If the Convention meets in LaCrosse again, I will try to show them some of your fixtures and implements. I believe they would set some of those present at this convention to thinking. The results of the convention were a pleasant time, some useful hints, and the acquaintance of brother bee-keepers. F. O. POLLEYS.

LaCrosse, Wis., Sept. 6, 1880.

TWO QUEENS IN A HIVE.

I do not think doubly-queened swarms are as much of a variety as is generally supposed. In mid-winter of '78-79, I found a dead queen upon the alighting board, and, of course, I expected to find the swarm queenless in the spring, but it was among the first to carry in pollen. I think some writer on bees has stated that, in anticipation of the death of a decrepit queen, the bees will rear a young queen. At any rate such a theory would account for the presence of two queens in the same hive, the bees retaining sufficient affection for the old queen to protect her from the assaults of the new one. Late-ly, I believe, one instance has been reported in GLEANINGS, where, if one of the two queens was removed, another would at once be reared. If this is a fact, it shows that bees will become accustomed to the surrounding circumstances, and be guided by them in spite of their instinct to the contrary. In view of these circumstances, it may be found possible to induce a gentle, queenless colony, whose readiness to accept queens has been previously tested, to accept two queens. The combats of queens may be more the fault of the bees than of the queens. As doubly-queened swarms would greatly simplify queen rearing, the subject is certainly deserving of careful investigation. N. H. SUPLEE.

Philadelphia, Pa., Aug. 20, 1880.

TRIUMPHING UNDER DIFFICULTIES.

I transferred two queenless stocks into one hive, and had good luck. I pried open the old boxes, cut the combs, and filled 4 racks, and introduced one of the queens I got from you. Then I hunted out the black queen of a strong colony, and successfully transferred it. But you may believe I had a hot time of it with 5 stocks of hybrids. They got "on their ear," and they went for every thing that they saw move, even the chickens. But I stuck to them, til I had my work done, at any rate, and my queens are now safely laying. ISAAC RUMMELL.

Warren, O., Sept. 19, 1880.

HONEY BY THE CUPFUL.

Seeds and queen came all right. Bees were all dead but 2. I send you two orange trees (dwarf), and one banana, to put in the corners of your greenhouse. The banana you will see grow, and when it blooms you will see the honey by the "cupful." It will blossom in 18 months. The orange

trees will blossom in 2 or 3 years, and bear the best kind of oranges. Take the same care of them that you would of fuchsias or geraniums, and they will do well.

AUG. LEYVRAZ.

Palatka, Fla., Sept. 16, 1880.

Many thanks, friend L. The trees and that wonderful banana are down in the greenhouse already, and now we shall look out for cupfuls of honey again, with renewed hopes. But I fear if we have got to keep all the plants in the greenhouse, we shall hardly be able to raise honey enough for our whole 300 colonies, even at the rate of cupfuls to a blossom.

Reports Encouraging.

BEES have done moderately well. I have taken about 1,000 lbs. of honey, comb and extracted, and have several hundred lbs. in boxes and one-pound sections, to take off yet. Bees are doing splendidly now, working mainly on buckwheat and Spanish needles. The three-dollar queen bought of you last fall has proved to be a very good honey-gatherer, and several of her daughters are very fine and prolific queens. I have 40 colonies all in fine condition. Honey in this vicinity has been very scarce, but may be more plenty this fall yet.

HENRY H. LAWRENCE.

Columbia City, Whitley Co., Ind., Sept. 2, 1880.

BINGHAM'S HONEY REPORT FOR 1880.

Eighty-five colonies of bees in fair condition to begin the clover and basswood season. Increased artificially and otherwise to 116. Sept. 17th and 18th, extracted from the upper set, third tier of frames, 14 to 15 hundred lbs. of fine, thick, clover and linn honey. Shall pack 100 colonies as usual, each one composed of two sets of frames, and bees, honey, pollen and combs weighing 50 lbs. This is the smallest crop of honey I have ever had, but my bees are in splendid wintering condition, and my hopes are not blasted. T. F. BINGHAM.

Otsego, Mich., Sept. 20, 1880.

Well now, friend B., it seems to me that you have come awfully close to it, if you are not in Blasted Hopes. An average of 14 or 15 lbs. to the colony is—well, I guess we will say it is considerably better than no surplus and not enough to winter, as some report. I wonder how it is that L. C. Root is so much ahead of every body else this poor season.

HONEY CROP FOR 1880.

This has been the poorest honey season that I ever knew. My best have made about 80 lbs. of surplus, while some have only provided for winter. As I had many stocks and the majority of them good, I am satisfied with the profits. I believe that bee-keeping will pay even in the poorest seasons, if managed properly.

LEROY VAN KIRK.

Washington, Pa., Sept. 1, 1880.

I commenced the season of 1880 with 114 colonies; have increased to 164 colonies, raised 100 Italian queens, and taken 4,000 lbs. extracted, and 1,400 lbs. comb honey.

C. M. WOOLVER.

Hallsville, Montgomery Co., N. Y., Sept. 18, 1880.

GOOD FOR SEPTEMBER.

That rush of honey still continues, and the last 25 lbs. of fdn. is nearly exhausted; so I send for another box.

BYRON WALKER.

Capac, St. Clair Co., Mich., Sept. 4, 1880.

Our honey supply this season has been about as good as with our fellow A B C's in Southern Ohio; viz., 220 lbs. in section boxes, from 7 stands of bees. We have had no increase.

BIGGER & SWALLOW.

Bellbrook, Ohio., Sept. 4, 1880.

Our 240 colonies of bees now have sufficient for wintering, and perhaps 12 colonies are now in surplus boxes. So hopes are not "blasted." I couldn't bear to be in that department. We have united the weak ones, and so have 14 less than in spring. We are trying to have all pure Italians.

S. J. W. AXTELL.

Roseville, Warren Co., Ill., Sept 6, 1880.

This is the third year I have used packed hives, and I am satisfied it is the best plan. In 1878, with twenty hives, my average was over 100 lbs. per hive, and I increased to 40 hives. In '79, with 40 hives, my average was 20 lbs. per hive, and I increased to 50 hives. This year, with 50 hives, average is 50 lbs. and no increase.

ANDREW JACKSON.

Deposit, Broome Co., N. Y., Sept. 13, 1880.

A GOOD REPORT FROM BUCKWHEAT.

My bees are doing very well since buckwheat came into bloom. One colony has filled 50 one-pound boxes with buckwheat honey, and will perhaps fill about 15 or 20 more. The rest are doing nearly as well. My bees are the light Italians mostly, but I notice that the dark ones work best. I have 43 colonies in fine condition.

W. H. TRAVIS.

Brandon, Oakland Co., Mich., Aug. 31, 1880.

FULL HONEY REPORT FOR THE YEAR.

I have 40 stocks, and have extracted 1,467 lbs. from 30 stocks. No comb honey. This goes to show that my report, Aug. 14th, of 285 lbs., was premature.

J. CHAPMAN.

Home, Newaygo Co., Michigan, Sept. 18, 1880.

The fall crop of honey in my section has been good. I have taken about 500 1-lb. section boxes of comb honey from 12 stocks.

J. N. WOODARD.

Coloma, Ind., Sept. 14, 1880.

Notes and Queries.

WHAT TO DO WHEN A QUEEN GETS AWAY.

THE queen came all right. Thanks for promptness. I put her with a small colony for three days, then added more bees and they balled her. I brought her to the house to cage her, and accidentally let her slip to the window. She happened to find a small hole in the corner of a pane, just large enough to get out of, and was gone in an instant. I suppose it's no use to cry over spilt milk.

Tecumseh, Neb., July 7, '80. MRS. J. N. MARTIN.

[Had you watched, friend M., I think you would have found your queen back at the very hole she went out of, in from 5 to 20 minutes. Before you let a queen out before a window, be sure the window is a perfect one, and has no holes in it that a bee might get through.]

Dear Brother:—Our farmhouse in Jeff. Co., with contents, was entirely destroyed by fire on the 8th inst., about 1 P.M. No insurance. Our apiary suffered greatly from the heat and flames. Our fine colony in glass hive in the parlor was burned up. The fire must have been the work of an incendiary, as there had been no fire for 4 days about the premises. We can assign no motive for the act, as we were striving to live "at peace with all men." All our bee literature, with 3 years' files of GLEANINGS except April No., is in ashes. Truly this world is not our abiding place. Pray for us.

St. Clairsville, O., June 21, 1880. D. H. TWEEDY.

[We deeply sympathize with you, friend T., but are you not a little harsh on humanity, in thinking anybody would do such a deed deliberately? If such is the case, truly Christian people should be up and doing. There are many ways in which fires originate spontaneously, as it were.]

QUEENS FLYING.

The queen you sent me I received in splendid condition in five days after starting. I put her into a queenless hive as soon as received. On the next day I let her out of the cage, and I suppose, if you had been on the lookout, you would have seen her somewhere around Medina, for I have not seen her since.

C. W. LEAH.

Spanish Fork, Utah, July 18, 1880.

[Use the tent next time, friend L., as mentioned in another column, and you will have them then, sure. Your queen must have had a long flight, if she came clear back here. Are you sure it did not come back to the hive?]

HOW TO RAISE A LOCUST GROVE.

I planted locust seed two years ago, and have now a nice grove of 1,000 trees, on about $\frac{1}{2}$ an acre of ground, and have sold probably 20,000 plants to farmers near here. I sold one-year-old plants at \$7.00 per thousand, and two-year-olds at \$10.00. When I planted them, I had no thought of the advantage it would be to my bees, I was after the timber, and a shady lot for stock, especially pigs. The trees, at two years old, run from 8 to 12 feet high. I have set out, besides my grove, nearly 100 around a lot of $2\frac{1}{2}$ acres, and several of my neighbors have done the same. Next spring I shall expect a fine lot of honey from the blossoms.

W. P. WOLF.

Wilmington, Clinton Co., O., June 22, 1880.

GRAFTED QUEEN CELLS; A HINT.

I grafted four queen cells with larvæ of exactly the same age. Result: Within fifteen minutes from the time the first one hatched, they were all out. I leave suggestions to you.

G. B. REPLOGLE.

Unionville, Iowa, July 24, 1880.

300 LBS. FROM ONE COLONY.

I only keep bees for amusement, and do not keep many colonies. One colony out of two gave me 300 lbs. of surplus honey this season. I have an imported queen.

G. S. WILLIS.

Nevada, Mercer Co., Ky., July 24, 1880.

QUEEN CELLS BY THE GROSS, AND CLIPPING VIRGIN QUEENS' WINGS.

I put a frame of new fdn. full of fresh larvæ, in a hive having a young queen. In a few days I opened it to see how my queen was doing, and she was not there; but, instead, I found 61 cells, nearly ready to cap, on one single sheet. No mistake, for myself

and wife both counted them. How I wanted a lamp nursery! Did you ever see the like? I don't know that my queen was fertilized. Will bees kill a virgin queen whose wing is clipped? B. F. CATHEY.

Cabot, Ark., May 11, 1880.

[I do not think the bees would kill a virgin queen because her wing was clipped, but she would be of no sort of value. You might as well clip her head as her wing, for she would go out just as usual, and try to fly, and be lost.]

BEE-SMOKER VERSUS TOBACCO-PIPES.

I have no smoker, except a clay pipe. I used to be one of the worst smokers in America, but I quit 2½ years ago. I now hate tobacco as bad as any man. Half a pipe will make me sick. I guess I will send and get me a smoker, and lay aside the pipe for fear it may teach me bad habits. H. M. SMITH.

Frankfort, Mich., June 14, 1880.

[I am very glad indeed, friend S., that you recognize the danger of having a pipe near you, and that no one may think I have a selfish end in view in giving such advice, I will make every tobacco-user a present of one of our best smokers, he to have his choice, if he will agree to give up tobacco. If he ever goes back to the habit again, he is to pay me the price of the smoker. Who wants a smoker on these terms?]

SAYING GOODS WERE NOT IN THE PACKAGE.

The drone fdn. was in the package all right. I overlooked it. J. H. CREIGHTON.

Chillicothe, Ohio, June 18, 1880.

[Now, friends, we will try very hard not to leave anything out of your orders, and will you please try hard not to overlook them, when you open your goods. See what this next friend says.]

I must beg pardon for what I said on that hurried postal, and say I could only see one box at the depot; and I picked it up and did not know until this minute that there were two. Will do better next time. All right now. CHAS. D. HOFF.

Carey, O., June 18, 1880.

HORSEMINT.

My bees are working finely on a plant that we call Horsemint. It is almost like the Rocky Mountain Sage. It yields a large quantity of honey, and it grows in large quantities in the woods, in low timber, and fence corners. LOUIS WERNER.

Edwardsville, Madison Co., Ill., June 18, 1880.

HELIOTROPE AS A HONEY PLANT.

I have a large bed of Heliotrope in the greenhouse, a plant that all of you know I suppose. It was loaded with blossoms all winter through, and is yet as full as can be. Whenever the sashes were lifted to give ventilation, and bees were flying outside, they would fairly swarm on it. They are working on it as steadily as on white clover or any other flower. I think it would be worth while to experiment with this plant. Have any of you bee-keepers ever tried it? F. HOLTKE.

Carlstadt, N. J., June 22, 1880.

COLOR OF DRONES.

I bought a queen supposed to be Italian. She is very large, and a nice leather color. Her increase are mostly three-banded. Her drones are a part of them black, and a part of them three-banded. Now, here is the puzzle: why are her drones not all alike? She has filled her hive with bees, and two combs for others. She came from a yard where they have im-

ported, hybrid, and black queens. Please inform me what blood she is. S. H. LANGWORTHY.

Riceville, Pa., May 12, 1880.

[I should pay no attention to the color of the drones at all. It is only by the *worker progeny* we judge of a queen's purity.]

It is plain to me that for the last two years I have belonged in the category of Blasted Hopes. In the winter of '78-79, by the then prevailing cause, I lost 5 swarms. Last summer I lost one by bee moth, in a box hive. I wintered 8 in Simplicity hives, and, by feeding, they were all in good condition in March. My time being occupied elsewhere, I did not see them for a day or two, and when I did see them, a neighbor's bees had destroyed 4, and would have finished the rest had I not come to their rescue. But I shall try again, and fight it out till success crowns my efforts. J. M. SEIDEL.

Hudson, O., June, 1880.

FEEDING BACK SOURED HONEY.

Can I feed back to my bees some very thick honey, that has begun to ferment, so as to get it into sections? and can I do it with safety both to the bees and to my reputation? I have a number of sections not quite filled, and our honey season is over for this year. I suppose the bees can fix it up all right, but do not know. GEO. F. WILLIAMS.

New Philadelphia, O., July 20, 1880.

[If the weather is warm, the bees will restore it so that it will be safe for brood rearing, but, if put into sections, it will have more or less of its original bad flavor. In that case, it would doubtless be safe enough to the bees, but not to your reputation.]

SOIL FOR RAISING SIMPSON AND SPIDER PLANTS.

For potting take 1 bu. of black muck from a swamp, 2 bu. of good, rich, sandy soil, 1 pk. of pure bonedust, and 1 pk. of fine charcoal dust. This will give you soil that will grow any thing you plant and keep watered. A. C. KENDEL.

Cleveland, O., Aug. 6th, 1880.

ABSCONDING MANIA.

We are having bad luck with our bees this season so far. We have had 18 natural swarms, and have had to hive the most of them from 2 to 4 times apiece, and have lost 4 of them by absconding and 3 went in with other swarms. On the 5th of this month we made 2 artificial swarms, and put them in the new hives. One stayed all right until the next day, and then left for parts unknown; the other stayed until the 8th, and then they left in the same way. What is the matter with our bees? and what was the matter with our artificial swarms? I do not know as I have ever heard of an artificial swarm going off before. W. A. BRUCE.

Warren, Wis., July 8, 1880.

[If you observed all the precautions given in A B C, and our recent Nos., I do not know as I can give any reason, but to call it an absconding mania, that sometimes gets into an apiary. They will probably get over it soon, but it is bad to lose so many bees.]

TWO QUEENS IN A HIVE.

How is this? It is said by old bee men that there is not, at any time, more than 1 queen in 1 colony of bees, which seems untrue, as we have had 2 queens in one hive for 7 weeks, and they did not meddle with each other; that is, did not kill each other. The theory does not hold out. S. K. HOSHOOR.

Glen Rock, Pa., Sept. 6, 1880.

THE PEET CAGE.

I have introduced all my queens this summer with one Peet combination cage without loss.

Norwich, N. Y., Sept. 6, 1880. M. ISHELL.

[But how many was "all," friend I? If it is 25 or more, it is pretty well for the cage; but if but a half dozen, it would not be very singular with any cage.]

Will a swarm of bees stay in a new hive without a queen? [Not often unless they have unsealed brood.]

Can a queen be introduced to a hive that has been queenless 15 days or more? [To be sure, and usually without any caging.]

Will a queenless colony cut down and destroy queen cells which are given them,—I mean sealed cells? [Not usually. See A B C.] T. W. COOPER.

Stone Wall, Smith Co., Tenn.

BEES AND CONFECTIONERIES.

My bees did poorly until buckwheat, and, being in town during the scarcity of honey, they were enticed by the confectioneries, where they were sulphured and killed, so that I had to move them out of town to save them. I did not get a single new swarm this year; but they are doing finely now on buckwheat.

GEO. D. SILVINS.

Wilkes-Barre, Pa., Sept. 6, 1880.

I began the season with 14 colonies,—11 blacks and 3 Italians. Have increased to 17 hives, which are full of brood and bees, and have honey enough to winter on, but I got no surplus.

THOMAS H. HUNTER.

Zanesville, Muskingum Co., Ohio, Sept. 6, 1880.

TWENTY-TWO DAYS IN THE CELL.

I had a young queen hatch a few days since, that was 22 days in the cell. She is a fine queen, doing good work now. Is this not unusual?

BEE MOTHS AND ITALIANS.

The bee moth are killing nearly all the black bees around, but they have disappeared from my apiary since I introduced those yellow foreigners.

B. F. CARROLL.

Dresden, Texas, Sept. 4, 1880.

A very poor honey season is closed. I do not yet know how much honey we have, but bees are in fine condition for winter, and have honey to spare.

T. F. BINGHAM.

Otsego, Mich., Sept. 9, 1880.

The 28th of April, 1880, I landed here, with two, 4-framed nuclei. From them, I now have 7 good colonies, in chaff hives, with plenty of stores for the winter, and all are strong.

C. W. CASKEY.

Parsons, Kan., Sept. 14, 1880.

PAINTING IN COLD WEATHER.

Tell your readers that, if they will have their hives ready and paint them after it comes cold weather in the fall, the paint will last longer than if put on in warm weather.

NELSON HUBBARD.

South Stafford, Vt., Aug. 26, 1880.

FROM 4 TO 20, BY NATURAL SWARMING.

I commenced last spring with 4 stands of bees, which have increased by natural swarming to 20, and are still swarming. I have extracted out of three of the old colonies and two July swarms, about 175 lbs. of honey, and they are now full and swarming every day. I have had 5 large swarms in 5 days.

J. P. INGRAM.

Bonham, Texas, Aug. 21, 1880.

DIFFERENCE IN WORKING QUALITIES OF DIFFERENT STOCKS.

I have awaited GLEANINGS to see reports from red-clover queens. They are pirates are they? Don't want them. This sets back the red-clover theory, yet there is a difference in the industrial qualities of colonies in the same apiary, conditions, so far as we can see, being the same. I am anxious to know if these qualities are transmissible. Traits of character are inheritable in bipeds and quadrupeds, why not in insects? I wanted to experiment in this direction, but my best colonies are hybrids, and we should select the best of the superior races.

JNO. N. WHITE.

Wolf Creek, Mercer Co., Pa., Sept. 6, 1880.

The queen which I thought was lost, I found in the hive attending to business, like a good queen.

Kokomo, Ind., Sept. 10, 1880.

J. B. COVIL.

DIPPING FOUNDATION.

I have made a Faris machine, and it works like a charm. Many thanks to GLEANINGS.

JOHN CARPENTER.

Miamisville, O., Sept. 11, 1880.

I commenced last spring with two colonies—one black and one Italian. I first removed the black queen, and gave her colony a capped cell taken from the Italian stock, and nearly ready to hatch. At the same time I divided the Italians, as they had more sealed queen cells, and were strong in bees and stores. From these, Mr. Sampson and I have 20 swarms; and, through inattention, we let 5 other swarms come out and leave us. Working for bees, we have not saved much honey, as our young swarms that were late needed it.

J. C. P. MCLENDON.

Dripping Springs, Texas, Sept. 14, 1880.

I have never raised any bees. I let them raise themselves; but the worms have been so bad of late years, that I would like to help them. Don't forget to print a GLEANINGS for me, for, if I can't make a club, I will send myself.

MRS. R. HALL.

Wurtland, Ky., Sept. 3, 1880.

HONEY IN SEPTEMBER.

Bees are bringing in plenty of honey yet. I have had several swarms come off lately, and hived one good swarm to-day.

JOHN KENTCH.

Tioga, Pa., Sept. 17, 1880.

CONVENTIONS, ETC.

I have sold out at South West, and have purchased a small farm of 41½ acres here joining the village of Nappanee. I am only 80 rods from the post-office, and about 100 from the express office.—Friend A. I., I am really sorry you are so prejudiced against conventions. I tell you we had a good time at Chicago last week. I believe you would have enjoyed the treat if you had been there.

I. R. GOOD.

Nappanee, Ind., Sept. 26, 1880.

[I have no doubt at all, friend G., but that I should have enjoyed the convention, and I do not believe I am very badly prejudiced, only that I can not but regard them as expensive luxuries for the most of us. I have not as yet published convention reports, mainly because they are almost always contained in the other journals, and the friends who take two or more journals would hardly care to have the same thing in all.]

Our Homes.

Bring ye all the tithes into the storehouse, that there may be meat in mine house, and prove me now herewith, saith the Lord of hosts, if I will not open you the windows of heaven, and pour you out a blessing, that there shall not be room enough to receive it.

MALACHI III. 10.

ONCE heard a story of an old lady who was one day entertaining friends; but, while she was absent on some household duty, some one picked up her well-worn Bible, and, on turning over the leaves, was somewhat puzzled to know the meaning of the capital T's written on the margin of the leaves, sprinkled all through the book. He turned it over, and studied in vain, until she happened to reappear.

"My good woman," said he, "what am I to understand by these letter T's, that I find written so plainly all through your Bible?"

"Those letter T's? Oh! those are to indicate that I have tried those passages, and found them true, for you know T is the first letter of tried."

Well, my friends, I have tried a great many passages in the Bible, during the last five years, and I do not know of any one that I have rejoiced over, more than the one above. Please now do not misunderstand me, or get off upon side issues, in the beautiful thought I am trying to get before you, but let us all honestly try to understand the great promise embodied in our text, just as God intended it for us.

Suppose you had money without limit, lying idle, and that you also had a son, whom you wished very much to grow up to be a great and good man. This son goes into business, but common prudence and forethought would dictate that you first try him with small amounts, before giving him unlimited access to the money with which you hope to aid him toward a useful life. If he should commence at once by asking for money with which to hire hands, and then pay them their wages without any care as to whether they earned what was paid them or not, and go to buying expensive machinery that he had no use for, you would feel at once, that it would defeat the end you had in view, to give him money too freely. Now let us, on the contrary, suppose the son showed a wonderful love for agriculture, and only employed a few trusty hands, and only a few good tools, and those not until he absolutely needed them. Suppose, too, that he produced a crop, exceeding that of even the most experienced farmers, and kept his accounts so accurately, that he could tell almost as well what it cost cash out, as what it brought cash in hand. Do you see any difference? Suppose, besides this, that he encouraged an enthusiasm in all the boys in the neighborhood around, for going right in to honest, hard work, instead of trusting to speculation; and that the effect was to stimulate all, both young and old, to a love for agriculture.

We are God's children,—perhaps the only children he has in the universe, and the wealth, if we may use the expression, that he has at his command, he has no use for,

except to give to us, as fast as he sees we are making a good use of it. Do some of you say he makes us work very hard for what little we get? How many boys think the same thing of their parents? The parents certainly know best, as a general thing, and God certainly knows best always. Do some of you think you would like to have God give you a little to try you? He has tried you, and is trying you, with what you have. Do you remember the widow who invested her two mites?

Turn again to the two boys: one of them very likely felt hard toward his father for withholding from him the money that would do him harm, while the other did not care for the money that, very likely, might have been given him without doing him harm. One had faith in his father's superior judgment and wisdom, while the other had none, and censured and complained. I fear there are many of you who reject this idea of God's special providence and care. A few days ago, one of our boys resisted the marshal and was thrown into jail. I talked with him about it, but he said the marshal was unjust. I told him inasmuch as we, the people, elected him for marshal, it was our duty to obey him, even if he ordered us to do unreasonable things. We should obey him so long as he was marshal, out of respect to his office, if nothing more; and, if he really was an unwise or unreasonable man, elect a better one next time. I appealed to the rest of the boys to know if I was not right. To my sorrow, they all decided against me. I quoted the passage about giving the cloak also, when sued by an enemy, and told them it was the words of Jesus, our Savior, for just such poor misguided fellows as we are, but, in spite of all I could say, they rejected Christ and his teachings altogether. Was I going too far, in thinking that they were put in jail and kept there solely because they rejected him and his teachings, and that they would come out forthwith if they would accept him as their guide, and try to follow him? I mused farther, that the greatest part of the troubles we have,—we who are out of jail,—comes from refusing to accept this same Savior and his teachings. I know it is the greatest trouble of my life.

How shall we accept him? how shall we bring tithes into the storehouse? how shall we get these blessings so great in number and quantity that we shall not find room to store them? I know some of you who read these pages are poor in money, for I have heard you tell of waiting all summer to get 25c. that could be spared to send for GLEANINGS; but, my friends, if my income were only 50c. a year, I would most absurdly take 5c. of it, or one tenth of the whole, for God's work. I do not mean that I would always give it to the minister, but I would invest it for the good of humanity in some way which my conscience approved. I would certainly give a part of the tenth to the churches and Sabbath schools around me; I would give some to the Bible Society, and the work of helping to send missionaries to educate and civilize foreign lands; and, besides all these and others I have not mentioned, I would constantly pray God to show me

opportunities of making good investments. What I mean by good investments is opportunities of doing a great deal of good, or the most good, perhaps, with the amount of money and time I have decided to devote to God's work. Many times money is given for charitable purposes where it does harm. A soldier with one leg came in a few days ago, wanting help: he used the money to get drunk with. A young man in trouble told me of getting with bad companions and losing all his money, and I loaned him \$2.50 to get home, and took his ring as security; I was sorry for him, and thought I had made a good investment, but I afterwards found he had told the same story, and disposed of several rings of the same kind, right in our town; so I had given money to Satan, instead of the Lord.

The Christian people of N. Y. City, one winter, decided to furnish food free of charge, to the suffering and destitute. While good may have been done in some cases, in many others it only resulted in inducing persons to give up situations where they were supporting themselves very well, and relapse into idleness, where they would be ready tools for Satan. I fear the investment was a bad one. Recently some individual with philanthropic purposes bequeathed a million of dollars toward civilizing the world through missionary work. This sum did a vast amount of good, without question, but it also did harm by inducing churches and individuals to withdraw their small subscriptions, which they had been in the habit of paying yearly, thinking, with such a sum in the treasury, there would be no need of their giving. In this light, the million of dollars was a bad investment. God wants the 5-cent pieces, and you, my friends, need to give the 5-cent pieces, and every time you neglect to give them, or withdraw your subscriptions, you are harmed. Weak churches are harmed, when they stop giving. The poorest Sabbath school in our land should be taught to give to God's work outside of their own little circle. In one sense, it is but selfishness to give only to your own church, Sabbath school, or neighbors. You get narrow and contracted views by so doing. To reap the great benefit of giving, and to secure the blessings that God has promised to pour out, you must give until you feel it, until it is really a sacrifice, and you have to go without something you greatly desired. In the old Bible times, God asked for the first and best of their flocks, and those who gave these freely to the Lord were blessed with more flocks and herds, until, like Abraham, the land was hardly broad enough to contain them.

If it has proven to be unwise to help those who come asking for help, what shall we do that we may not be imposed upon, and make bad investments? Ask the Lord to help you to see those about you who need assistance, but who do not ask for it. Ask him to move your heart toward the objects he would have you look after. Just last week, I felt strongly impressed to call and see how a friend who was addicted to intemperance was getting along. He is one I have written of before, who, in a fit of intoxication, hung

himself, and was cut down and restored by his wife. I felt that I ought to look after him and his family, but finally neglected it. As nearly as I can remember, it was the next day after these impressions that he committed suicide; and last Sunday morning I saw his lifeless body lifted out of the river. Had I heeded this feeling that came, I know not how, he might have been now looking after his fatherless children. When you are feeling that you *ought* to do something, do it.

But, if those who are in trouble and need help, do not ask anybody for assistance, how is anybody to know it? and how are they to get help? Let them ask God, and *he* will send somebody. Muller never told anybody he was in need of funds; even when they were in the greatest straits, when a friend came to him and asked him how his funds were, he declined telling him. The friend replied that he came there intending to give him a thousand dollars, but that, unless he told him how their affairs stood he would not give him a cent. Muller was decided in his sense of duty, in telling only God of his needs, and his friend never gave him a cent. I may not have given the sum correctly, but it was a large amount. Is it not easier to go to God for the things you need, than to ask of any human friend? It is, if your motives are right and pure; but I know, from experience, what it is to be afraid to ask God for help or for his blessing on our plans in life. Where one man is on his knees asking God for help, and another is asking God to show him where to bestow help, it will be a pretty safe thing to have these parties know each other, and God will surely bring it about sooner or later, to their mutual good and happiness.

I like to make good investments, and I do not know of many things that give me a keener pleasure, than when I get a box of goods and find the articles all well and beautifully made, and the price moderate. For instance:—

"Just look there, Mr. Gray! are not those beautiful spirit-levels? see, they have a plumb and level too, and we can sell them for only a half-dollar."

"Why, I declare, those are nice. Can you really afford to sell them for 50c.?"

"Yes, sir; they made them for me to order, and said if I would take a whole gross, they would put them at an even \$54.00. This, you know, would be only 37¢ each."

Shortly afterwards, during a very dry, dusty season, I told Mr. Gray we wanted a watering trough, at the well right in front of our building, for watering horses. He replied that the well was so deep it would be very hard to draw water from so great a depth, with our pump. Pretty soon, I bought a new pump, with rubber buckets, that draws water from the 30-foot well, so easily that a child could water almost any number of horses. I then petitioned again, for a nice trough.

"Why, Amos, it will be the greatest nuisance of any thing you ever undertook. Your pump will be worn out in no time, and there will be slop and a mud puddle all the time. All the farmers around will come

here to get water, because it is a little less trouble than to get it at home."

I secretly rejoiced to hear him say this, for I hoped such would be the case, and that the poor horses that looked so weary and dusty drawing their heavy loads from the depot, might get a good many drinks of water which they would not get at all, if the watering trough were not there. I wanted to see the nice new pump worn out, and I wanted to see a mud hole started near the trough, for I had made up my mind I should then have the fun of collecting all the stones from the road side to fill it up. I cannot tell exactly the conversation, but, if I recollect aright, he said that the well would be drawn dry. I felt sure it wouldn't, for when the well was being dug, I had prayed for plenty of nice water for tired and thirsty men and animals as they passed along that road. God told me to have that well dug, and he would certainly help me to make it a "good investment." I will tell you how he told me. One day I was in the depot. Some great, stout men employed on the train, came into the room, and said to the agent,—

"Mr. W., have you got any good water here?"

"There is some water behind the door, but I do not know how good it is."

While one took a huge draught, the other asked him if it was good.

"Well, yes," said he; "at least it ought to be good, for I should think, by the taste, it had been standing here since about last Saturday."

These boys were in the habit of swearing, for I had heard them while unloading freight at different times. They were intemperate, sometimes, I felt pretty sure also. I knew by experience, that one of the readiest ways of reaching them would be by furnishing them with plenty of nice water. To be sure it would pay, and the well was soon dug, right where they could see it with its nice new pump, as the train passed. It was not many days before I heard, from my window, one of them say,—

"Go right over there with your jug, Bill; there is a splendid well of water; I have been there a good many times."

May the kind Father above bless and watch over them. Little did they know, poor fellows, that the well was made almost on purpose for them. Did it not pay? Why, I have felt happier over that investment, I do verily believe, than over any one I ever made before in my life. Mr. Gray made a trough of pine planks. The grain runs up and down in the ends, so that the bottom and ends will shrink and swell in such a way as to leave no cracks. After the trough was securely nailed, some strips of galvanized iron were nailed around the ends, so as to hoop it as it were, and some more strips were put along the upper edges of the sides, to prevent horses from biting the trough in pieces. The trough was filled up level full with bright, sparkling water, and I kept looking out to see who would be our first customers. A man came along, and looked inquiringly toward it, and reined his horse toward the trough. The horse pricked up its ears, snif-

fed at the new wood work, and then at the water, and finally plunged his nose into its sparkling depth, and quaffed a draught that lowered the water some inches. Next came a large dog along the dusty road, looking as if the duties of this life were rather dull and monotonous, on just this dry, dusty day. Suddenly, he raised his head, and I imagined him saying to himself, "Why, is that water, up there in that box? I wonder if anybody will scold, if I just taste it. My! but isn't that deliciously cool?" And he looked around, seemingly to see if any one were going to scold him. Poor fellow! as he trudged away, I wondered if he had not changed his mind, and concluded this world is rather a pleasant place to live in, after all. Pretty soon a man and his wife came along. They had just got off from the cars, and were tired and dusty. They had nearly passed by, when he turned his head, said something, and walked back toward the pump. It is true, he allowed his wife to turn the pump while he held the cup, and he took the first drink too, but I presume they had been married a great many years, and he had got used to being waited on, and being served first (like a man that lives down at our house), and, besides, the poor fellow had the headache; for while she was pumping some more for herself, he took off his hat and bathed his head in the cool, clear water in the trough. I mentally vowed that the trough should be washed out often, and kept clean, but I really fear that it needs washing out just now.

My friends, that well and pump and trough cost just about \$60.00, nearly the same as the gross of levels. The latter, when they are all sold, will bring me about \$72.00. The well and pump will be a bill of expense as long as I live, it may be, and I shall never get one solitary cent for serving the public, yet which pays best? One investment brings money; the other, God's blessing, as promised in our text at the head of the chapter.

A few days after, a family connected with our most popular saloon came past, and, while their horse was drinking, I passed water to them all, and with pleasant words strengthened a friendship that has existed for years between myself and that family. I have often thought that Christ's words about a cup of cold water could not come very far amiss if taken literally.

A few weeks ago, I was over in the adjoining county of Summit. When we got near Akron, we found, at intervals, watering tanks right in the middle of the road. Our horse was so unused to such proceedings, that he had a mind to be frightened at them. When coming home the day was very warm, and Ernest remarked that, as Jack was sweating unusually for him, we would have to drive slower. But we were in a hurry, and it required the whip to urge him on, and he began to sweat more. Right here came one of the tanks. The water was taken from a spring, and ran into the tank continuously. He approached, and after seeing what it was, plunged his nose into the spring water almost up to his eyes, and took a most unusual drink, although he had been watered but a very little time before. After

his drink, he pricked up his ears, and started off on a brisk trot without any whip, and he stopped sweating too.

I used to drink beer once, and I have a great many times noticed that, if a cup of good water were handy, after drinking the water, I concluded that I did not care so very much for beer after all. The same is the case with cider. A convenient place, and the sight of a temptingly bright, tin cup, may be the means of keeping your son or mine from getting a habit of indulging in intoxicating drinks. When the cup gets rusty, hang out a new one. Tin cups can be bought for only a few cents a dozen. Dig a well, fix a pump and watering trough, and you will have preached a sermon that all classes of community will listen to; aye, dumb brutes too; and they will applaud your sermon in a way that God will hear, even if men do not.

My friends, if I were to tell you a neighbor's house was on fire, you would rush out pell-mell, and work like heroes, every man, woman, and child of you; and yet you would get no pay for it. I believe I am pretty nearly right in saying that there is not a neighborhood where this journal goes, where fires are not raging, which consume not only the body, but immortal souls as well. Large sums are spent, and much time is occupied by the best men and women we have in our land, in working against the tide of intemperance. You know how much I like practical work,—something I can get right hold of and do, instead of wasting too much time in talking about it. Now, suppose you who feel as I do about it take right hold here, and declare we will make wells and springs so plenty in this land of ours, that no man or boy shall ever say again he went into a saloon to get a drink because it was the handiest place he could find. If you know of a spring any where on a side hill near you, from which it is possible to bring the water down into a watering trough by the roadside, for the sake of the poor, dumb brutes, for our boys' sake, nay, for Christ's sake, set right about it at once, and fix it up. If there is not shade naturally, make a nice shade near the trough. Put up a bench too, and it will be counted as treasures laid up in Heaven, if it never brings any treasure into your pocket here. If you have no such spring, then dig a well as I did. Do not say you cannot, but say, with God's help I will; and if you have not the time otherwise, build a shed over the spot, and work at it rainy days. Work at it as if you really believed the promise in our text, and it will surely come to pass. Let the women and children help to buy the pump. These blessings that come from giving are to be shared. Let each one give of his own earnings, or his own savings. When we go without something that we want so much as to make it a real trial to give it up, we are then learning the real lesson of self sacrifice, and shall reap good accordingly. Dedicate the pump and watering trough to the cause of Christ, and, if you choose, have some pretty, little motto, made to stand the weather, fixed up conspicuously. Here are some:

Ho, every one that thirsteth.

Come ye to the waters.

Let him that is athirst come.

Whosoever shall drink of the water that I shall give him, shall never thirst.

Come on, boys, and let us see who will be the first to have a standing and practical temperance lecture,—one that works, not by might, nor by power, but by the spirit that Jesus teaches to all who will consent to follow him. Help us, O Lord; help thy children in this work, that we may, with pure water, wipe out the greivous stains which have so long cursed our fair land.

Excuse me for interrupting you, please. I see (in my imagination) you are very busy, but, nevertheless, I want to tell you that I appreciate GLEANINGS, especially "Our Homes" very much. I'm an old sinner, I know, a member of no church, but I read "Our Homes" with interest. Are you a minister of the Gospel (I judge so at any rate)? and of what denomination are you? Your "preaching" suits me better than any I have heard from the pulpit. I think I am somewhat of a "queer genius,"—probably a "hard case," but I can't help it; there is so much rascality, and so very, very few people to be trusted. It seems that everybody (some exceptions of course) is just watching a chance to "beat" you. Even in the churches, those who ought to set the world a good example are often the worst. I have very little faith in people generally, and as for *genuine* Christians,—well, I don't know any; at least, none that come up to what I think they should; probably I expect too much of them. I say I know none; I mean personally. I believe *you* are one, if there are any. I wouldn't be afraid to trust you. I try to do right, pay my honest debts, and don't try to "beat" anyone out of a cent. If there is a mistake made in any of my business transactions, whether in my favor or not, I am always ready to rectify it as soon as discovered, but I know I don't do my duty, as taught in the Bible.

Well, I guess I would best not detain you longer. Keep up "Our Homes." I believe it does good. When I read it, I feel something like this: "Here's one man at least that is honest in what he says."

Wish you would tell me on enclosed card, or in next GLEANINGS whether you are a Methodist, Baptist, or what? J. J. D.

No, friend D., I am not a minister, but a very ordinary sort of an individual indeed. I am trying to help each one of the five or six churches in our town exactly as I fixed up the pump and trough I have been telling you about, and I should be happy in going right into any one of these churches, abiding by its regulations, and helping with all the energy I have, if that church happened to be the nearest or most convenient place of meeting Christian people, and studying God's word. To be sure, there is one among them that I make my special home, but, as I fear we are prone to make too much of these small dividing lines, I would a little rather not mention the name of that one. Will you not excuse me for thinking it the better way? I am very glad to hear that you have so much confidence in my poor self, but is it not, partly at least, because we have not happened to run against each other in any way? If you were here, I am sure you would find some very disagreeable things

about me; or, at least, Satan might persuade you that I was far different from what you think me now, which would amount to pretty much the same thing, so far as you are concerned. Now, friend J., if you want to earn my good opinion, go right to the church nearest to your home, no matter whether it be one of those you have named or not, and tell them you want to help the work along. Lend your energies toward every thing your conscience approves, and skip the rest; or to do still better, help in every thing which you find the better part of the people approve. When you see Christians err, if you cannot bring yourself to the task of kindly telling them, to their faces, how it looks to *you*, ask the Lord, on bended knee, to help you not to mind it. Do this, and you will be happy in spite of what all the world together can do, for your feet will be on solid rock.

USEFUL ARTICLES FOR A SMALL AMOUNT OF MONEY.

OUR COUNTER STORE.

SOME of you may perhaps remember my long talk to you in our Jan. No., and the plans I then outlined, for making short cuts in certain lines of business. You may remember that it was on Christmas eve I wrote. Well, after a part of the matter was in type, I had some misgivings as to the practicability of the plan I then advocated, and, above all, I began to fear that it was impossible to have goods handled with so little expense as I had planned, and that the project would fail for want of sufficient margin, and we should have to fall back on the old way of paying several profits on things, before they could pass from the manufacturer to the consumer. I would have given quite a little one evening while pondering over the matter, if I had never undertaken it at all. What shall we do when we think we have made mistakes, and are started in a wrong direction? When we are undecided, how shall we get wisdom? I left my type writer, and went into the bindery. The building was still and cold. The moonlight came through the window bright and clear. I knelt down and asked God to guide me clear of mistakes, and told him I would stop my whole plan, and give it all up, if it was his will. On the other hand, I told him if my plan was a right one, and well pleasing in his sight, to please indicate it to me so that I need not be troubled about it more, to tell me wherein I was wrong, and, in short, to take it all into his hands. Before I rose up I felt satisfied, and I felt sure, too, that God had something in store for me in that line that I knew not of. A freedom in prayer had been given me, that I had long since learned to feel is sure to bring some good with it. These promises are not unconditional, mind you; if God is going to bless our work, we must look out that our actions are in keeping with the idea.

A few weeks ago, after one of our Thursday-evening prayer-meetings, a young man who had lately stood up among us and declared he wished to be numbered among the followers of Christ, asked me if I could

spare a few moments. I told him I should be most glad to.

"Mr. Root, I am selling tobacco and cigars in connection with my other business, as you well know. In fact, I am selling to some, with all the rest, who are just learning to use it; and it begins to lay heavily on my conscience. If I stop this branch of my trade, I may be obliged to give up my business. All the other groceries sell these things, and I shall offend a great part of my customers if I decline. What shall I do?"

I hardly need tell you, my friends, that I assured him God would never allow anybody to suffer very long, for choosing to follow where he lead. In a few days more, a notice was put up in plain letters to the effect that no tobacco, in any form, was sold on the premises. An old hand in the business once told me that not a grocery in Medina, and perhaps not all the drug stores, could pay expenses, if it were not for the tobacco trade. What do you think of it, my friends? Will you let a man lack custom in your town, if he tries to follow his conscience in these matters? Are you willing to be God's messengers?

Well, I resolved that nothing should be on the counter of our counter store, that had even the appearance of evil. The houses where I buy goods often put in samples of new goods which I do not order; and, a short time ago, they sent me a lot of toy revolvers with cartridges. As they could be sold for 5c, the clerks thought they would go off like "hot cakes," but I objected. Shortly after, Mr. Gray had got a place made in the counter for those same pistols. I did not quite know why, but a feeling came up that it was not exactly the thing to see even a toy revolver lying side by side with a 5c copy of Gospel Hymns. Some time ago, *The Day Star*, mentioned last month, spoke of Christian people carrying revolvers. He said that the Bible teaches that the meek shall inherit the earth, but these Christians seem to have the idea that people who carry revolvers are going to inherit the earth, and the way in which they are going to do it is by shooting off the rest of the people. On another column, I have spoken of a neighbor who committed suicide. He did it with a revolver while standing in the river. His wife told me he bid on it at an auction, and it was struck off to him, although he had no use for it and did not want it. Had it not been in his pocket, the idea might not have suggested itself to him. Not three days before, another man, at one of our hotels, tried to shoot himself, but was so much intoxicated he missed his head, and shot another man, fortunately without much injury. What do we want revolvers for? Providing the boys with toy ones, I fear, will teach them to want larger ones.

"But what are you going to do with those little pistols?" said one of our boys who seems to be watching my movements a little curiously. That is the question; what shall I do with them? I would have sent them back, but the expense would be almost their value, and although they were sent me without orders, I would rather pay for them than to put my friends who sent them to al-

most as much expense as they are worth, while they only intended to do me a kindness. I told the young man I would put them in the mud hole that the horses have stamped near the watering trough, and dedicate them to a useful purpose. "But the small boys will dig them out."

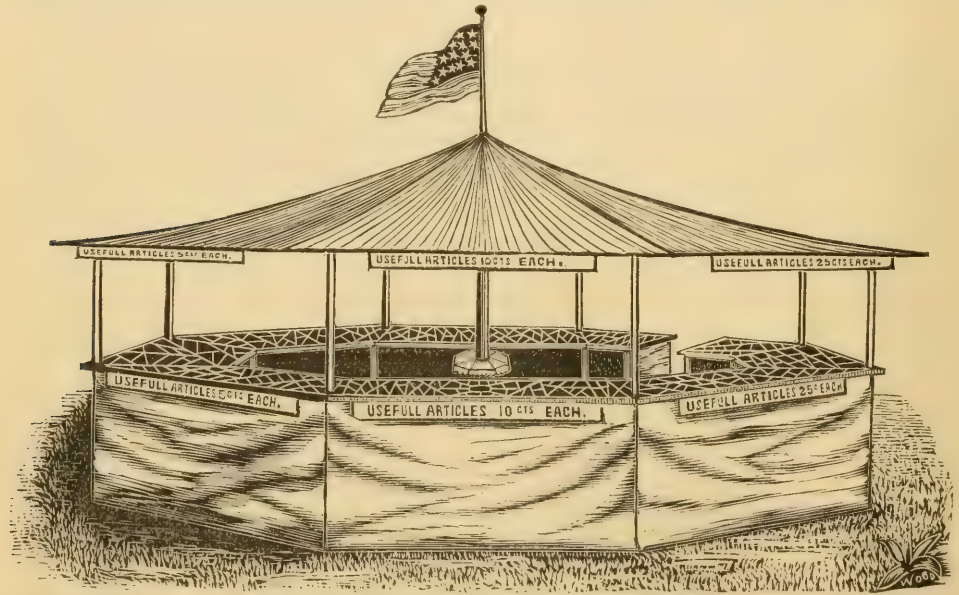
The idea suggested itself to me that I would do it after dark, but would that be just exactly right and square? I think I will propose the question to our young folks at the noon service. I have always told them, I have no secrets in the world to keep from anybody.

The counter store has prospered as you know, for tons of goods have been sent to you. A few days ago, the idea occurred to me of testing its practical working among a crowd of people, by taking it to our county fair. As soon as I mentioned it, several of the girls and boys volunteered to take charge of it, and Mr. Gray, a little to my surprise, entered into the scheme heartily, though at

first that I myself began to doubt the wisdom of the undertaking, when I reflected that it would take 8 clerks two days to take care of it, besides the labor of moving it over, and setting it up. We talked it over at breakfast table, on the first day of the fair.

"If you only made a decent profit on the goods," said my wife, "but to pay 4 c. for articles, or even more, and then sell them for 5c., as you do some of them, is out of the question. Why, you will have to sell at least a hundred dollars' worth, to even pay expenses, and it seems almost impossible that you can do that."

Let us kneel down and ask God's blessing upon it, said I, and then went away, feeling willing to have it a loss, if it was his will. I do not tell you these things, my friends, because I wish to boast of my success, but because I wish you to learn to go to that kind Father, with all your cares and trials, and to learn to trust him, while you are trying to do right by your fellow-men.



OUR COUNTER STORE READY FOR THE GOODS, AS IT APPEARED ON THE FAIR GROUND.

first, if I am correct, he was a little inclined to think it small business. Accordingly he built the little structure shown you above, only he had a roof of boards, where the engraver has shown canvas. The counters were divided by low partitions, as you see, so as to make a place for every article in our list. In the bottom of each box, the printed name and description of each article is pasted, so that even a new clerk could tell all about each thing, whether it was silver, steel, iron, etc., and what it was intended for. Under each counter are shelves containing the surplus goods to replace each article as soon as it was sold. On the bars overhead are places to hang baskets and other bulky articles.

It was quite an expensive task to fix it all up, and my wife suggested that it was almost impossible that we could ever sell goods enough to pay for so much expense. I con-

I went over on the morning of the first day, and, although everything was in nice trim, and the clerks ready for work, the people seemed to stand off at a distance, and look upon our little store with curious eyes, wondering and sometimes asking if it were not a lottery, or something of that kind. I explained that it was only useful articles, mostly those used in every household, for very low prices. One young man came up, and took a 10c. hammer. He told how many years he had kept house, but had never owned a hammer, because he felt he could not afford one. As he laid down the coin, which might have been used for a cigar, he walked away, with evident satisfaction, as he looked at its good, strong, hickory handle, and polished surface, even though it was only chilled cast iron. He showed it to others, and more were sold. Very soon a group was gathered near, picking up the articles

and looking them over. It was an easy matter to keep things in their places, for each one just fitted where it belonged. In an hour more, it was difficult to get near the store, and before night the place looked, for all the world, like a hive of bees that was being robbed, only that the robbers instead of going off with honey, were all loaded with armfuls of tin-ware, and tools of different descriptions. I pushed through the crowd, to see how the girls managed as saleswomen. Everybody seemed crazy, there was such a roar and clatter. One would say:

"Here! I will take this, and this, and this, and this, and this, and here is a quarter."

"All right," said the clerk as she took the coin, and then her hands flew as only a woman's can fly, as she replaced the different articles with more of the same kind. When they could not replace them fast enough, an assistant was called, and at the 5c counter, which was by far the busiest place, it kept an assistant diving under the shelves the whole time. Amid the din, might be heard something like this:

"Ernest, give me another skimmer, dipper, ladle, bootjack, and tea-bell."

"Here is your money, take it quick, somebody, and here are the things I have bought."

"Oh dear! The tea-bells are gone; won't somebody go quick to the factory for more bells?"

Through it all, there was a steady current

of good nature and merriment that was new to me, amid so much business. Perhaps it was the open air that made everybody feel so pleasant; or might be—do you not think, dear reader, it could be the effects of that prayer way back months ago, in the cold, still moonlight? There, before my very eyes, was the answer. Goods were being sold by the hundreds, at a rate I had never before dreamed of, and at an expense that was wonderfully small in the aggregate, compared to the old, slow, and unnecessary motions. The most of the ones who were doing it were not trained salesmen, but our own boys and girls, and the purchasers were the people of my own native county. The goods were all handled without having either the cost or retail price marked on them at all. The counter arrangement did it all. Even Mr. Gray seemed to have forgotten buzz-saws and basswood, and, in the interim between selling handsaws and vises, was assisting the girls, by explaining to customers that the 5c bottles of perfumery were flavored with "bologna," and such like pleasantries. When it came dinner time, they were so much engaged with their work, that they did not go to dinner at all, and I had hard work to persuade them, toward night, to leave long enough to go down to the eating house, kept and controlled entirely by the ladies of one of our leading churches. Instead of \$100.00, the sales amounted to about \$280.00.

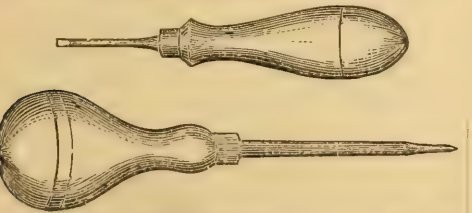
USEFUL ARTICLES

FIVE CENTS EACH.

TERMS OF PAYMENT—Strictly Cash With Order.

All Prices Subject to Change without Notice

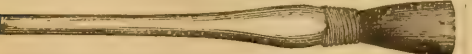
Postage on each	{	Articles with no postage marked are unavailable.	{	Price of 10	Price of 100



2 Awls, Scratch, Wood Handle	45	4	00
3 Awls, Brad, Assorted Sizes.....	45	4	00
8 Baskets, $\frac{1}{8}$ bushel	40	3	75
" $\frac{1}{4}$ "	45	4	25
" $\frac{1}{2}$ "	50	4	75

Just think of it! A Half Bushel Market Basket for five cents.

Bluing, Oldroyd's Liquid, price of box containing 3 dozen bottles, \$1 50.			
4 Brooms, Whisk	45	4	25
Nice to brush the sawdust off your clothes; a very good brush broom in fact, for 5c.			
5 Broilers for steak.....	40	3	50



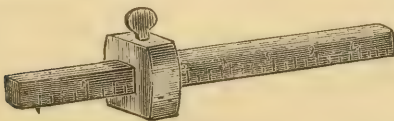
2 Brushes, Paint, Paste, or Sash	35	3	00
4 Cake Turners, all metal and very pretty	45	4	25

Postage.		[Pr. of 10, of 100	
1 Carpenter's Pencils, with Rule on the Side	40	3	75
Carpenter's Compasses, not equal to steel ones, but, like the 5c. scissors, a wonder for the money.....			
12 Coal Shovels, Wrought Iron.....	48	4	75
1 Combs, fine, Rubber.....	35	4	00
" Dressing, good	45	4	00
1 Court Plaster, to be kept in Drawer under Buzz Saw Table.....	30	2	50
8 Cups, 1 quart, (for only five cents).....	48	4	50
5 Cups, Tin, 1 Pint.....	40	3	50
5 Cups, $\frac{1}{2}$ pint (2 for 5c).....	20	1	75
4 Dinner Horns, Loud if not Sweet	45	4	25
Just the thing to let the "men folks" know when the "bees are swarming."			
6 Dippers, Tin 1 pint.....	45	4	00
A real Serviceable Dipper, and just the thing for getting a cool drink out of the spring, or "old oaken bucket."			
2 Dish Covers, Blue Wire Cloth, 6 in ...	45	4	40
3 Drawer Pulls.....	30	2	75
9 Dust Pans.....	45	4	25
Tip-top for keeping the Floor to your Shop Clean, and just the nicest Present for your Little Girls.			
2 Easels of Silvered Wire, to Hold a Photograph	48	4	75
1 File Handle, self-adjusting (see 10c list)	45	4	25
12 Folding Hat Racks, all Black Walnut, Wonderfully Well Made for the Money.....	40	3	75
13 Foot Scrapers.....	45	4	25
Splendid (for your wife's carpet) during muddy weather.			
7 Frying Pans, Good to Carry along when you "go Fishing," or to melt Babbet Metal in, etc.....	48	4	75
2 Funnels, Pint.....	45	4	25
8 Garden Trowels.....	45	4	25
Would be cheap at 4 Times the Price.			
2 Gimlets.....	40	3	50
3 Glass Cutters.....	30	2	50
Just such as have been selling from 25 to 50c each.			
GLASSWARE.			
Berry Dishes, Individual, very pretty 45 4 25			
Goblets, Cups with Handles, Tumblers, &c., both large and small, 7 very pretty designs, and beautiful for only 5c each.....			
	45	4	25

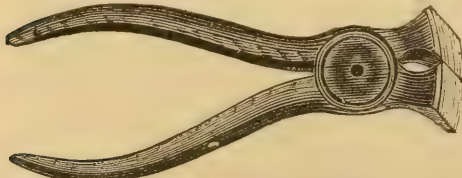
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[Pr. of 10, of 100

- 4 | Graters, good 40 | 3 50
 2 | Hanging Baskets, Silvered Wire..... 47 | 4 50
 1 | Handkerchiefs, good size, fine, and neatly hemmed..... 40 | 3 75
 | Ink, "W. O. S." Large 2oz. Bottles; Price of Box containing 3 dozen Bottles, Assorted Colors, Black, Blue, Violet, with 1 Bottle each of Green and Red, \$1.
 3 | Kitchen Knives, Fine Steel, metal Handle, labeled "Kitchen Friend" 40 | 3 50
 2 | Knives and Forks for Table Use (a Knife and a Fork Are Two) 48 | 4 75
 | Good Steel, but rather Plainly handled.
 1 | Knives, Pocket, 1 Blade, for Children. Not very good, nor very handsome. 45 | 4 25
 12 | Ladle, Pierced, Tinned Iron 45 | 4 25
 6 | Ladle, Solid Tinned Iron 45 | 4 25
 | This is dipped in melted tin after it is all finished, making all the joints smooth, strong, and secure, and giving it all a beautiful glossy finish, as nice and bright as silver, and just about as serviceable, if we only think so. At the very small price of 5c, you can get a new one whenever they become worn or rusty.
 3 | Lamp Shades, Good and Pretty..... 35 | 3 00
 7 | Letter file and Paper weight combined, very pretty..... 45 | 4 25
 5 | Mallets, Wood. Just the nicest thing to Drive Sections Together..... 45 | 4 25
 2 | Marking Brushes..... 40 | 3 50



- 5 | Marking Gauges. A very pretty tool for the money..... 45 | 4 25
 3 | Match Boxes, Tin Japanned..... 40 | 3 75
 | Matches. Best Parlor, no Brimstone, no Smell..... 45 | 4 25
 7 | Match Safes, Bracket work..... 40 | 3 75
 2 | Mat Chromos, size 7x14 inches..... 40 | 3 75
 | As a general thing, I am not much in favor of Chromos, but when I saw these beautiful pictures, on a dark background, for only 5c, I decided they were a boon to humanity.
 2 | Measuring Tapes, 36 inches, spring, in tin case..... 45 | 4 00
 4 | Meat Forks, tinned wire, large and strong..... 45 | 4 25
 2 | Memorandum Books, Excellent for a Pocket mem. book for the apiary, 100 pages..... 40 | 3 50
 6 | Milk Pans, toy, ½ pint, 2 for 5c. Excellent for nail boxes..... 25 | 2 00
 8 | Mincers, or Chopping Knives..... 45 | 4 25
 4 | Mirrors, in either Wood or Paper Frames, nice to bring down a swarm of bees..... 40 | 3 75
 5 | Molasses Cups, Tin, Nice for Honey..... 48 | 4 75
 5 | Mousse Traps to keep in the Honey House..... 35 | 3 00
 | Mucilage and Brush.....
 | Exactly like those that you pay 25c for. I do not know how it is possible for them to be made so low. Three dozen are packed in a box, and \$1.65 pays for box and all.



- 4 | Nippers, the Best 5c tool in the whole lot, without question..... 45 | 4 25
 4 | Oil for Sewing machines and other light machinery, in handsome bottles 45 | 4 00
 2 | Oilers, Zinc, Neat, Pretty, and Just Right to Keep All the "Machinery" Well Oiled..... 45 | 4 00
 5 | Pans, 1 Pint, with Handle, very pretty and Handy..... 45 | 4 25

Postage.]

[Pr. of 10, of 100

- 5 | Pans, Jelly cake, 8 inch..... 45 | 4 00
 | " Milk, 1 quart 45 | 4 00
 3 | Papers of Pins..... 45 | 4 00
 | Not first quality, for they are made of iron, as your Magnet will tell you very quickly; but they are useful for some purposes. For best brass pins, see 10c counter.
 11 | Paper Weights, Bronze..... 45 | 4 00
 1 | Pencils, Lead, The Kind I Prefer (Am. Phonographic)..... 45 | 4 00
 7 | Pen-Racks, pretty and useful..... 42 | 4 00
 | Perfumery, Pretty, but not very good 45 | 4 25
 4 | Pickle Hooks, very neat 45 | 4 00
 6 | Pincers, like the 5c scissors..... 40 | 3 50
 6 | Pokers, to stir the fire, Wood Handle 45 | 4 00
 6 | Pliers, flat nose, of Chilled Iron, like the 5c scissors, but excellent for the money..... 45 | 4 00
 1 | Rolling Pins, hard wood, well made .. 85 | 8 00



- 2 | Rules, 1 Foot, for School Children.... 35 | 3 00
 2 | Rules, 36 in., 9 fold, a very hand / tool and a source of unfailing amusement for the baby..... 45 | 4 00
 7 | Sad Iron Stands..... 35 | 3 25
 4 | Salt or Pepper Bottles, glass, white metal top..... 45 | 4 00
 6 | Sauce Pan, Tinned, 1 Pint, with Lip.. 45 | 4 25
 | Just as pretty, and just as handy for a variety of purposes as can be, and exactly the thing for making candy for queen cages.

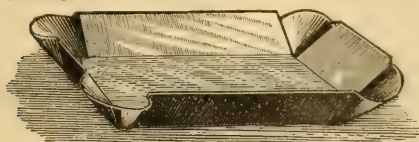


- 2 | Scissors, Japanned Handles, and Polished Blades..... 45 | 4 25
 | Either round point for the pocket, and for little girls, or sharp pointed. Wonderfully well finished for such an insignificant price. Nothing equal to the round points for making a little girl happy, but you must look out for the pieces.
 3 | Scoops, Tin, for Getting Honey out of a Barrel..... 45 | 4 00
 2 | Screw-drivers, Sewing Machine, Neat, Wood Handle, fine steel..... 25 | 2 00
 3 | Screw-drivers, Metal Handle..... 45 | 4 00
 0 | Seeds, Almost any Kind, per Package 35 | 3 00
 | Slates 8x11, good..... 45 | 4 00
 5 | Soap, Fancy Cakes, Perfumed Toilet, but good sized cakes, "Boss"..... 40 | 3 75
 12 | " Blue India, large Cakes and best Soap in the market..... 48 | 4 75
 13 | Soap-Cups, to go on edge of tub or Bucket..... 45 | 4 00
 7 | Spice Boxes, Gilt, Labeled Allspice, Nutmeg, Cinnamon, &c..... 30 | 2 50
 | With Close Fitting Cover, very neat and pretty. These are exactly the size of the pint honey pails; but they have no bail, and are not soldered. The expense of soldering would be but a trifle, and they would then make the cheapest and prettiest package for candied honey known.
 1 | Sponges, good size..... 40 | 3 50
 2 | Spoons, Table, Tinned Iron..... 38 | 3 50
 2 | " Tea, " (Two for 5c.)..... 20 | 1 75
 8 | Square Pans 8x12..... 45 | 4 00
 3 | stands, Silvered Wire, for Hot Dishes 45 | 4 00
 6 | Stove Polish, Dixon's Best..... 45 | 4 00
 2 | Sunday School books, exactly the same reading matter has cost from \$1.25 to \$1.50, very hastily gotten up 48 | 4 75
 4 | Table Spoons, Britannia, almost as nice as silver, but bend pretty easily 50 | 4 75



- 5 | Tin Pails, 1 Pint..... 50 | 5 00
 | Cover and all, and just right for 1½ lb. honey.

Postage.]	[Pr. of 10, of 100
6 Tack Hammer, Coppered, Iron Handle	40 3 50
4 " " Wood Handles.....	35 3 00
2 Tacks, Tinned, 3 Sizes of Papers.....	35 3 00
4 Tea Bells, very neat and pretty, nice for the baby and useful besides.....	45 4 50
5 Tea Canisters.....	45 4 25
Teaspoons, Britannia (See Table Sp's)	40 3 50



5 Tin Plates, for Honey, Set of 3, Assorted (Separately 75c, \$1.00, and \$1.75 per hundred).....	40 3 50
6 Tin Cake Pans, Scallop, very pretty..	45 4 20
3 Tin Wash Basins, 8 inch.....	45 4 25
If a Bee keeper don't need one, I don't know who does, and these are so Neat, Pretty, and convenient, I verily believe I should sell 4000 of them to-day, if I could just pass a lot of them around among you. Only just 5c. Just think of it!	
2 Tooth Brushes, Neat, and Excellent, but rather small.....	45 4 25
2 Towels, tastily fringed and striped, and just the thing, with a 5c wash basin, to "set off" the honey house	42 4 00
17 Towel Rollers.....	45 4 00
3 Trellises for flowers, painted green, very pretty.....	48 4 50
5 Twine Boxes, to hold a Ball of Twine, made of Different Colored Woods..	48 4 50
1 Views for Stereoscopes, from all Countries of the World.....	45 4 25
2 Wax Ball, for Work Box, in Shape of Egg, Pear, Plum, etc.....	48 4 75
7 Whet-stones, (Hindoo Oil Stones).....	45 4 25
2 Willow Work Baskets, 4 inch, pretty and strong.....	45 4 00
2 Wire Nails, per Paper, 8 sizes.....	35 3 00
5 Yard Stick, Graduated and numbered as nice as a Pocket rule.....	42 4 00

USEFUL ARTICLES TEN CENTS EACH.

10 Baking tins oblong square heavy.....	70 6 50
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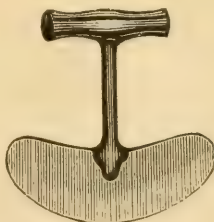
5 Balances, Spring, 24lb., Accurate.....	90 8 75
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A customer writes: I can't see how you can sell that Spring Balance for 1c. C. B. THAWING.
Hamilton, Mo., Feb. 4, 1880.

Spring Balance at hand. Don't see how you can sell them for 10c. We have to pay 50c for the same thing here. AUG. TIGGES.

Marathon City, Wis., May 7, '80.	
5 Belt Punches in wood handles.....	95 9 00
4 Broom Holders, silvered wire, just right for Whisk Brooms.....	95 9 25
8 Brooms, Hearth.....	90 8 50
8 Brooms, Whisk, Wood Handles, good	85 8 00
5 Brushes, Clothes, an astonishingly good Brush for a dime.....	85 8 00
4 " Hair.....	90 8 75
2 " Paint, Will do to paint hives, but are rather small.....	90 8 50
6 " Whitewash.....	90 8 50
5 Buggy Whips, good for the money...	98 9 50
5 Butcher Knives, Steel and Temper Best quality, 8½ inches long.....	90 8 75
3 Chamois Skins for Cleaning Cutl'y, &c	85 8 00

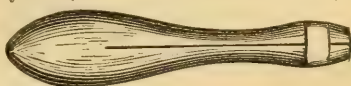
Postage.]	[Pr. of 10, of 100
5 Chisels with Handles, ½ inch.....	80 7 75



12 Chopping or Mincing Knives, steel....	85 8 00
14 Clothes Lines, 55 ft. long, and have been tested with 300 lbs. weight.....	90 8 50
17 Clothes Racks, Walnut Frame, 4 Hooks	90 8 50
7 Coffee Canisters.....	85 8 00
9 Coffee Pots, 1 qt., good.....	90 8 50



5 Cold Chisels, best tempered steel.....	85 8 00
10 Dust Pans, Japanese.....	95 9 00
2 Envelopes, Bunch of 25, such as we use	75 6 00
2 Eye Protectors, Excellent to keep saw dust and Turning chips out of your eyes.....	90 8 50



2 Files, Double-Enders. This is price of File only; price of Handle is given in 5 c. Counter.....	95 9 25
2 Files for Cross Cut and Hand Saws...	85 8 00
13 Foot Scrapers.....	75 7 00
2 Fruit Knives, White Metal Handle, Steel Blade, all Nickel Plated, would have been considered a few years ago very reasonable at 50c.....	98 9 50
5 Funnels, Quart, Just right to pour Honey.....	85 8 00



8 Garden Trowels, Steel.....	90 8 75
Gents' Socks, excellent for the money	90 8 50
4 Glass Cutter, with Knife Sharpener, Corkscrew and Can Opener.....	95 9 00

GLASSWARE.

Glass Dish, for "Honey Posies".....	80 7 50
Glass Dish, with Glass Cover.....	80 7 50
Just right for a 1 lb. Section of Comb Honey. Same for Candied Honey, same price.	
Glass Pitcher, Small, for Liquid Extracted Honey.....	80 7 50

The above four pieces of Glass Ware were made for Butter Dish, Sugar Bowl, Cream Pitcher, and Spoon Holder, but I have "confiscated" them for Bee-Keepers, as you see.

Glue, Peter Cooper's, Liquid, with Brush.....	90 8 00
4 Hammers, Small, for Nails.....	65 6 00
5 " Magnetic.....	90 8 50
16 " Full Size.....	65 6 00
10 Hatchets, Bronzed, Geo. Washington	90 8 50
1 Ink Powder for Cheirograph, best.....	85 8 00
14 Knife Trays of wood, make a splendid nail box.....	98 9 50
9 Ladies, same as on 5c counter, but Larger and Heavier.....	80 7 50
1 Lead Pencils, red and blue, large, excellent for marking slates to hives..	65 6 00

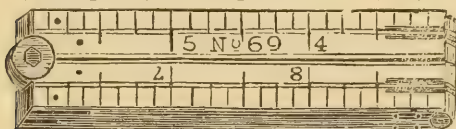


2 OUR 10c AMERICAN KNIFE, EXACT SIZE OF CUT. FINE STEEL BLADE, COCOA WOOD HANDLE | 95 | 9 00
"Knives came all right, and we have three happy boys." R. H. RHODES, Arvada, Colorado.

Postage.		[Pr. of 10, of 100]
8	Lunch Box, Tin, Japanned	95 9 25
3	Magnets, Horse Shoe	96 9 00
A beautiful Scientific Toy, formerly sold as high as 50c. These are Nicely Finished, and Very Powerful; be careful not to let them touch WATCHES.		
A customer writes: "The magnets attract all the little folks, and some big ones too. I want you to send me a half-dozen."		
	H. H. Fox.	
	Tribulation, Mo., Feb. 25, 1880.	
10	Mallets, Wood, excellent	85 8 00
13	Match safes, double, pretty and useful	85 8 00
18	Maple Sugar Bee Candy, in 1 lb. bricks. Good for Bees and Children	98 9 50
2	Measuring Tapes, Spring, in Brass case, 36 in	75 7 00
	Mirrors, in Papier-mache Frames	85 8 00
10	Molasses Cups, Japanned, Nice for Honey	95 9 00
7	Nut Crackers, stout, will crack Hickory nuts	95 9 00
2	Nut Pick, all Nickel, very pretty	95 9 00
	Oil for Sewing Machines	90 8 50
The Very Best that Can be Obtained, 4 oz. bottles.		
This is also the best oil for other light machinery.		
8	Oil Cans, 1 quart	98 9 50
5	Oilers, Zinc, Spring Bottom	85 8 00
15	Paper Weight, Bronze	75 7 00
3	Papers of Pins, best quality	80 7 50
3	Pocket Levels, to be Put on a Square	85 8 00
11	Potato Masher, Large	55 5 00



3	Prick Punches, best tempered steel ..	85 8 00
6	Quart Measure, Tin, with lip	95 9 00
24	Rolling Pins, Revolving Handle	75 7 00



2	Rule, 1 Foot, Box-wood, Pocket	100 1000
	Salts, glass, large	80 7 50
2	Scissors, same as 5c, but larger	75 7 00
10	Scoops, Tin, for "scooping" honey, seeds, flour, etc., 1 qt.	85 7 50
2	Screw Drivers, Wood Handles, Strong and Nice, 7 1/2 inches Long	90 8 50
3	Screw Driver, metal Handle, nickel Plated, small	95 9 00
7	Shears, 9 1/2 inches, excellent for 10c ..	85 8 00
8	Sieves, in Wood Frame, 10 1/2 in. Round ..	85 8 00
3	Soap Stand, Silvered Wire	90 8 50
2	Stands, Tea Pot, Silvered Wire	85 7 50
11	Steak Pouders, turned of wood	65 6 00
3	Steels for Sharpening Knives, good ..	85 8 00
4	Straw Cuffs, to keep your shirt sleeves clean when working in the Honey ..	65 6 00
4	Suspenders, Excellent for the money ..	90 9 50



5	Tack Claws, Polished Steel, Enameled Handles	95 9 00
10	Tin Cake Pans, Scallop, 10 inch	95 9 00
10	Tin Pan, with Cover, 2 Quart	97 9 50
	" " no cover, 4 quart	95 9 00
7	Tin Pans, Plain or Milk, 4 qt	95 9 00
Just think of it, a fair size, very pretty milk pan, for 10c.		
2	Tooth Brushes, good quality	85 8 00
4	Towels, same as 5c ones but larger and better	90 8 50
2	Twine Cutter, to screw on your counter. Very handy for Clerks and Merchants	85 8 00
10	Waiters, Plain, Japanned, and handy because they are small	95 9 00
10	Wash Basins, 10 in., pretty and useful ..	95 9 00
23	Whetstones	85 8 00
2	Willow Work Baskets, 5 inch	60 5 50
21	Wooden Bowls, 1 foot wide	85 8 00

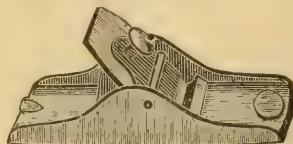
OUR "15 CENT" COUNTER.

2	Belt Punches, hollow, fine steel	1 00 10 00
	Brooms, full size and very good	1 40 13 50
17	Coal Shovels, with long handles	1 40 12 30

Postage.		[Pr. of 10, of 100]
3	Files for circular saws, 5 in. (see cut on page 13)	1 45 14 00
4	File, Double-enders, 10 inch, (no handle; handle 10c)	1 25 12 00
8	Hammers, Magnetic, all metal handle, a beautiful tool	1 25 12 00
17	Hammers Carpenter's, Adze eye, rather small but nicely finished	1 30 12 00
2	Knives, American "Barlow;" 1 inch longer than the 10c knife, and the blade is hand forged Razor Steel ..	1 25 12 00
1	Knives, Ladies, Ivory handle, 1 blade ..	1 25 12 00
Sir:—My little knife came to hand last night and the whole family want one. Please send three more, all white banded.		
	H. H. Fox.	
	Tribulation, McDonald Co., Mo.	
12	Milk Pans, 8 qt.	1 40 13 50
2	Needles, London Needle Co's best, including large sizes and for all purposes, Package of six papers ..	1 40 13 00
	Pails, wood, 1/2 size, Painted, 2 Hoops ..	1 30 12 00
3	Perfumery Wencke's genuine	1 30 12 00
2	Rules, 2 Foot, Pocket, Box-wood	1 25 12 00
3	Scissors, solid steel handle and blade ..	1 40 13 00
6	Sieves, in wood Frames, Wire, round ..	1 20 12 00
5	Thermometers, Best, 7 inch	1 30 12 50
10	Twine, Strong Flax, 1/2 lb. Balls	1 30 12 50
62	Wash Boards Serpentine Zinc a good article, that usually sell for 25c. or higher	1 30 12 00



7	Weeding Hook, Tinned to Prevent Rusting, a most convenient Tool for working among Plants	1 20 11 00
4	Willow Work Baskets, 6 1/2 inch	1 00 9 00



5	OUR 15 C. PLANE	1 40 13 50
At first glance you might take it for a toy plane; but, if you try it on a board, you will find it is a plane in reality. They will sharpen a lead pencil beautifully, trim up a wood cut or electrotype, take the corners off from a rough box, reduce the width of a board, and do it all in a workmanlike and finished manner; and when they need sharpening, the bit is taken out oradjusted securely, by simply turning a single screw with the thumb and finger.		

Twenty-Five Cent Counter.

8	Bell, Dinner, Brass	2 10 20 00
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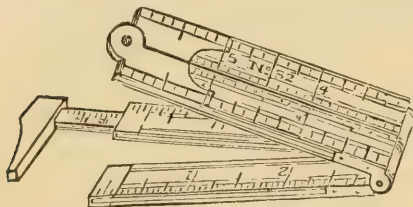
11	Box Scraper, Excellent for Clearing Bottom Boards, Etc., from Wax and Propolis	2 25 20 00
18	Braces, Carpenters, with set screw ..	2 10 20 00
	Brooms, best quality	2 30 22 50
3	Brushes, Paint, very fair for Painting Bee Hives	2 25 20 00
7	" Whitewash	2 25 21 00
	Clothes Baskets, Holding nearly 2 bushels	2 25 22 00

These, although pretty light, are a great convenience for holding light, bulky articles. We use several dozen of them in our factory, and as they nest one into the other, they occupy but little room when not in use.

Postage.]	[Pr. of 10, of 100
Garden Rakes, malleable iron, with iron braces.....	4 25 40 00



20 Hand Saws, 18 inch; Very Neat, Made of Fine steel.....	4 00 37 50
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3 Caliper Rule, beautifully finished, one foot, 4 fold, brass lined.....	4 25 40 00
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11 Hammer, Fine Steel, Finely Finished, although rather small, it is the very best Hammer that can be bought.....	4 25 40 00
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33 Hatchets, Good Steel, well finished.....	4 00 35 00
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Hoes, fine steel, riveted blades.....	3 50 33 00
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Lanterns.....	4 50 44 00
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5 Magnifiers, 2 Lenses, on 3 brass feet.....	4 50 42 50
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10 Measuring Tapes, 50 Feet, Fine.....	4 25 40 00
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2 36 in., Spring with stop, Nickel Case, very Handsome, a beautiful present for a Lady.....	3 50 30 00
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1 Morton's Gold Pen, "Magic," no case.....	4 25 40 00
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For case see 25 and 75c counter.	
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9 Paper Weights, Glass, (4 Cannon Balls).....	4 00 37 50
---	--------------

16 Pruning, or Sheep-toe Shears, Excellent.....	4 50 44 00
---	--------------

I am especially pleased with the pruning shears, as I have had them in constant use for the past three days, pruning orange trees, and find them good. The price here for the same make is \$1.00. New Smyrna, Fla., May 1, 1880. W. S. HART.

3 Scissors, 5 in. long, English make, and best English Steel, very beautiful.....	4 00 37 50
---	--------------

2 Scissors, Button Hole.....	4 00 37 50
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Same size and same make as above, with screw adjustment for Any Sized Hole.....	3 75 35 00
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This is so large and strong, that in an emergency, it will do nicely for a small handspike or crowbar.....	4 00 38 00
--	--------------

Shovels, for Boys, Steel.....	4 50 44 00
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" " Men.....	4 50 44 00
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20 Sickles, or Grass Hooks, Fine Steel beautifully Finished.....	4 00 35 00
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2 Silk Handkerchiefs, real silk and good size.....	4 50 40 00
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12 Spring Balance, with Tin Dish, Suspended by Three Chains, 24 lbs.....	4 00 35 00
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15 Stereoscopes, for views see 5 cent counter.....	4 75 45 00
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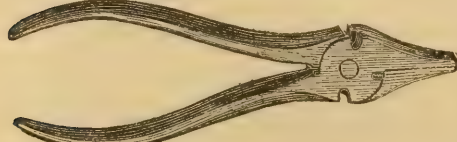
Tea-Kettle, Copper Bottomed.....	4 00 39 00
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26 Vises, Iron, Parallel Jaws, 1½ in. wide.....	4 75 45 00
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To screw on a Table or bench, Very handy.	
---	--

Seventy-Five Cent Counter.

Basket, Oak Splint, 2 Bushel.....	6 50 60 00
18 Boynton's Lightning Pruning-Saws, 20 in., Rip-saw on one side, and Cut-off on the other, an excellent saw for any purpose.....	6 50 60 00



5 Pliers and Wire Shears combined..	6 50 60 00
This is a most useful tool, well made, and of excellent steel and temper.	

Postage.]	[Pr. of 10, of 100
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27 Carpenters' Brace, Patent Grip, 10 inch Sweep.....	60 58 00
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64 Cheirograph, Foolscap Size, 8½x12½	7 00 60 00
---	--------------

With this size we give a 2 oz. Bottle of Best Ink.	
--	--

Ink not included if sent by mail.	
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2 Morton's Gold Pen in Silver plated case and pencil.....	6 50 60 00
---	--------------

4 Scissors, Large size, English make, Finest English Steel Handles and Blades; 7 in. long.....	6 00 55 00
--	--------------

8 Shears, 9 inch, Solid Steel Blade, Nickel Plated.....	6 75 65 00
---	--------------

This is the best and prettiest Pair of Shears, I think, I ever saw; they would be beautiful for a present for your wife or mother or any other lady.	
--	--

2 Silk Handkerchiefs, Beautiful.....	7 00 65 00
--	--------------

ONE DOLLAR COUNTER.

12 A B C Book in Paper (Post paid at \$1.00 each) For less than 10 see advertisement in GLEANINGS.....	6 30 60 00
--	--------------

15 Cloth bound, 25c more, each book.	
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Axe fine steel, extra make and finish.....	9 50 92 00
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Basket, Oak Splint, 3 Bushels.....	8 50 80 00
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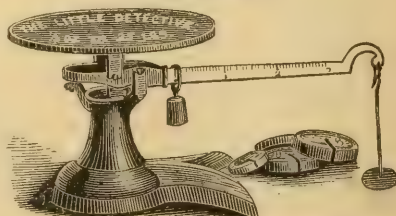
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MISCELLANEOUS COUNTER.

FOR \$2.00.

Nutmeg Clock. A good, serviceable, Seth Thomas clock; requires No Key, and the hands are set without opening it; beautifully finished in Nickel Case. By mail, 15c extra.

FOR \$2.50.



"Little Detective" Scales. This little Scale is made with Steel Bearings and a Brass Beam and will weigh accurately any package from ¼ oz. to 25 lbs. It is intended to supply the great demand for a Housekeeper's Scale. It is hardly as rapid a weigher as the "Favorite," and does not, like it, take off the tare; but it weighs a smaller quantity, does it rather more accurately, under all circumstances, and costs \$1.00 less. Every scale guaranteed perfect. Not mailable.

FOR \$4.00.

Watch, the Waterbury American. This is an American watch, stem winding, in a nickel-plated case. The whole is put up in a very pretty box, with a book of instruction in the care of it, and every time I look at one, I can only wonder that they can be furnished for any such sum of money. At the above very low price, I can not warrant them, but all I have sold are giving excellent satisfaction, and we try them carefully here before sending them out. By mail, 20c extra.

Contents of this Number.

BEE BOTANY.....	521
BEE ENTOMOLOGY.....	528
BLASTED HOPES.....	550
BOYS' DEPARTMENT.....	520
CARTOON.....	544
EDITORIALS.....	556
GROWERY.....	533
HUMBUGS AND SWINDLES.....	521

INDEX OF HEADS OF GRAIN, NOTES AND QUERIES, AND OTHER SHORT ARTICLES.

Alkali Water.....	545
Are any Seasons not Profitable for Honey?.....	530
Arkansas as a Honey State.....	532
Artesian Wells.....	549
Are B. Hopes the Fault of Season or Bee-keepers?.....	530
At the Convention.....	546
Banner Apiary.....	544
Bees that need Feeding in November.....	545
Bees that won't Start Queen-cells.....	544
Bees and Grape Juice.....	539
Bee-Stings and Rheumatism.....	538
Bees and Small Fruits.....	536
Bees in the Ear.....	543
Bees for Honey Rather than Looks.....	549
Bees Troubling Fruit.....	548
Bees in Tennessee.....	540
Bishop-wee.....	530
Black Bees in Black Bees.....	557
Blacks or Italians as Robbers.....	529
Boy's Experience in Bee-keeping.....	530
Bureau Hive.....	549
California (Rumford).....	549
California Bee-keeping.....	536
Chase's Receipt-book.....	557
Cheering Report.....	545
Changes in A. B. C. Bees.....	537
Cleome Integrifolia.....	520
Chrome Lutea.....	530
Comb Foundation.....	540
Covering Bees for Winter.....	556
Cost of Imp. Cyp. and H. L. Queens.....	538
Comparative Value of Gr. Sugar and Honey.....	543
Coopering.....	545
Conventions and Reports.....	539
Dark Fdn. for Brood Chamber.....	559
Difference between H. L. and Cyp. Bees and Italians.....	536
Discount on supplies.....	541
Diversity in Price of Honey.....	546
Dominion Apiarian Bazar.....	556
Doollittle's Report for 1880.....	528
Drone Imbs or Eggs.....	537
Early Amber Sugar-Cane.....	535
Evening Primrose.....	521
Express Charges.....	557
Feeding Ext. to get Comb.....	546
Features of Long-livers.....	534
Feeding Liquid Food in October.....	535
Feeding Ext. Honey to Fill Sections.....	557
Feeding Newly Stocked in November.....	556
First Pre. to Unglazed Sections.....	549
Foul Brood from buying Combs.....	549
Four-banded Bees.....	539
Friend Good's Good Report.....	524
From an Iowa A. B. C. Bee.....	529
Plan for 4th & 5th Seasons.....	549
Galy. from Honey-tanks.....	545
Giant Hyssop.....	542
Good for York State.....	534
Gleanings as an Ad. Medium.....	542
Good Report from Bkwt.....	531
Good for the Cyprins.....	549
Grand Report from Wis.....	525
Grape-sugar Candy for Winter.....	557
Grapes for Shade.....	541
Grape Sugar in Small Lots.....	556
Hatching Queens from Drone Eggs.....	533
Has the Doctor and Wife Introduced.....	524
How Friend Root Went Down, etc.....	531
How to Rent Bees.....	534
How Easy to be Mistaken.....	549

HONEY COLUMN.....	511
HEADS OF GRAIN.....	535
KIND WORDS FROM OUR CUSTOMERS.....	542
LADIES' DEPARTMENT.....	531
Notes and Queries.....	549
REPORTS ENCOURAGING.....	542
SMILERY.....	533
How Old may a Queen be, and become Fertile.....	546
Holy Land and Cyprins in Winter.....	556
Honey from Cotton Plant.....	532
Honey vs. Sugar as Food.....	543
Large Eggs.....	543
Honey from Whitewood.....	548
Honey from Cotton.....	555
Honey-dew.....	542
Ink by Mail.....	549
Int. and Queens Several Days old.....	528
Introducing Virgin Queens.....	535
Italians vs. Black Bees.....	527
Italians vs. Blacks.....	523
Impurity Among Bees.....	541
Justice or Mercy, in Ruling.....	522
Keeping Queens a Month.....	539
Keeping Bees for Fun.....	546
Keeping Queens.....	539
Laying Queen Leaving Hive and Killing Another.....	526
Letter from Geo. Grimm.....	519
Length of Bee-tongues.....	524
Little Bee Apiary.....	543
Loquat-trees for Honey.....	544
Longevity of Bees.....	534
Mitchell.....	521
Moth-worms.....	531
Moulting Healthy Plant.....	541
Mrs. Cotton.....	521
Must Candy be Fresh.....	550
My Dollar Queen.....	544
Necessity of Lawyers and Personalities.....	556
New Bee Ency.....	528
New Cover.....	536
Notes from Banner Apiary.....	543
Not in Blasted Hopes.....	548
Onlifting Starters.....	538
Out of Blasted Hopes.....	548
Parker's Fdn. Fastener.....	547
Painting Tanks Inside.....	545
Perforated-tin Separators.....	536
Peel Queen-Cage.....	528
Personalities.....	556
Phymata erosa.....	528
Playing of Young Bees.....	549
Poisoning Bees.....	530
Prairie Honey.....	528
Propolis, where from.....	533
Quality of Honey from Cotton.....	550
Quandary.....	556
Queen Story.....	545
Queen that won't always Sign of queenlessness.....	525
Queen Troubles, how induced.....	527
Query in regard to Nuclei.....	542
Reels and Separator.....	541
Racecoons, etc.....	525
Red Bud, or Judas tree.....	550
Redress for Bee-keepers.....	539
Report from Neighbor H.....	545
Rheumatism and Stings.....	534
Robbing Neighbors' Hives.....	544
Separators of Stretched Wires.....	542
See Boxes as Samples.....	541
Shed and Spider Plant.....	526
Simpson Plant in Arkansas.....	532
Simpson and Spi. Plant.....	532
Stings and Rheumatism.....	533
Stream of Honey from one Hive.....	542
Summer school Books for 5c.....	556
Trials of an A. B. C. Scholar.....	541
Viadon's Candy for Queens.....	559
Visit to Medina.....	513
Visit from Friend Calvey.....	532
Waterbury Watches.....	557
Wabbling Saw for Rabbits.....	547
Wintering Without Care.....	548
Wintering in Unprotected Smoky Box.....	548
Why do they Pick at Bees?.....	535
Why did they Swarm So?.....	539
Wisconsin Ahead.....	545
Yellow Rocky Mountain Bee Plant.....	529

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CINCINNATI.—Honey.—Scarce, both Extracted and Comb; demand slow. We pay 10c per lb. for Extracted Clover Honey, and 16c for choice white Comb Honey. Other good qualities, 8 c.

Bee-wax.—Is 20@25c per lb. on arrival.

Cincinnati, O., Oct. 21, '80.

C. F. MUTH.

CHICAGO.—Honey.—Comb Honey is in fair demand at 15@18c, for nice light lots; dark, 12 to 14c. Extracted Honey, 7@9c.

Bee-wax.—20@23c for light, and 15@17c for dark.

ALFRED H. NEWMAN.

972 West Madison St., Chicago, Ill., Oct. 21, '80.

NEW YORK.—Honey.—Best white Comb, small boxes, new, 17@20c; fair, ditto, 15@16c; buckwheat, ditto, 11@13c; large boxes, 2c per lb. less. White Extracted, 8½@9½c; Dark, ditto, 6@7c. Southern strained honey, 8½@9½c per gal.

Bee-wax.—36@42c.

A. Y. THURBER.

158 Duane St., New York, Aug. 26, 1880.

ST. LOUIS.—Honey.—Our market for honey continues steady at 19 to 21c. for choice comb, and 8 to 11c. for choice extracted. The market is nearly bare of good comb honey, but it is reported here that there is a large shipment coming of California comb, and may look for lower prices.

Bee-wax.—Quiet and steady; salable at 21 to 23c.

Oct. 18, 1880.

R. C. GREER & Co.

No. 117 North Main St., St. Louis, Mo.

Our Black List.

This department differs from Humbugs and Swindles, in giving the names and addresses of persons who, although they do not advertise, obtain goods by making promises which they do not keep, and, not only that, but they do not answer postals or letters when written to. To avoid accidental injustice, no one's name will be given here before we have ourselves repeatedly tried to get reply from him, and, at the same time, have ascertained from his P. M., that he is a resident of the place, and, in short, have done everything in our power to prevent this list from growing larger. Besides all this, an additional warning will be given each delinquent by sending him a printed copy of this list, before his name comes out publicly. Those who will fully take another's property without equivalent, and woe deliberately and purposely do wrong, we all wish to be warned against, and it is only such we mean to include here.

D. Berry, Mansfield, Richland Co., O. 1-397

Elmer Braley, White Oak, Ingham Co., Mich.

H. M. Major, transiently at Beebe,

White Oak Co., Mich.

W. R. Monroe, Bay City, Bay Co., Mich.

J. W. Blanton, Paris, Henry Co., Tenn.

Those persons named below claim to have sent us money, which we have never received. On the strength of their claim, we have sent the goods, asking for half price, but have heard nothing from them since, though we have written each one several times.

Joseph Stauffer, Staynor, Simcoe Co., Cal.

FOR SALE!

Failing health compels me to offer for sale, separately or together, 114 swarms of bees, of the best strain for working qualities that can be had; Bee farm of 50 acres of choice land, 15 acres in pine, hemlock, basswood, elm, oak, beech, and maple timber; apples, pears, peaches, plums, and grapes in abundance; two 30x40 barns—one nearly new, with basement and bee repository; house, wood-house, honey-house, and shop all attached. Shop, with basement, near a fine stream to which machinery can be easily attached, 2½ miles from R. R. depot.

114 WM. H. BALCH, Oran, Onondaga Co., N. Y.

Hives, frames, sections, honey-extractors, and, in short, all supplies for the apiary, ordered for next season's use, during the present month of November, will be billed at a discount of 5 per cent, providing you mention, when you send the order, that it was sent with this end in view. No discount on counter goods.

KIND WORDS FROM OUR CUSTOMERS.

GLEANINGS received for October. It is just splendid in the new dress; could not get along without it.
W. E. GRIGGS.
Sunfield, Mich., Oct. 9, 1880.

I received your A B C book last week. I am much pleased with it, and think it is worth double the money.
CLEMENT PERRIN.
Elma, Ont., Can., Sept. 18, 1880.

GLEANINGS looks very pretty in its new dress. We feel mere and more as though we couldn't do without it.
W. D. PARKER.
Defiance, O., Oct. 9, 1880.

I would not do without GLEANINGS for double the price. Our bees have made enough honey for winter, and some surplus where stocks were only doubled.
S. W. VANDORN.
Eldorado, Butler Co., Kan., Oct. 12, 1880.

The tested queens mailed on the 4th inst. reached me safely this evening in good condition. Thanks for your promptness. I can get queens in less time from Medina than from Atlanta, Ga., only 75 miles. Of course, this is the promptness of the shipper.
F. N. WILDER.
Forsyth, Ga., Oct. 6, 1880.

A SUBSTANTIAL BIRTHDAY PRESENT.

Inclosed please find \$1.25 for A B C, bound in cloth. This is to be my pa's birthday present. He has long been wishing for it, and will be greatly pleased to receive it.
ANNA STANCLIFT.
Brookfield, Mo., May 24, 1880.

The tools are all entirely satisfactory. Thanks. We thought when we first "sot eyes" on that 10c G. W. Hatcher that it was wrongly named—ought to have been P. T. Barnum or "Little Humbug." But I tell you it is just "boss" for sections and lathing for plaster, etc.
D. H. TWEEDY.
Bridgeport, Belmont Co., O., Oct. 11, 1880.

I have tried the extractor, and am well pleased with it. For strength, lightness, and beauty, it can't be beat. Tell your customers those tin-lined enamel sheets are not *lined* with tin at all, but *bound* on the ends. That 25c tack hammer is a beauty; and, what's more, it is a *good* tool. On the whole, I am more than pleased.
C. B. TAWING.
Hamilton, Mo., Oct. 13, 1880.

I received your postal of the 1st, stating that there was no money in the letter you got from me. Now, Mr. Root, I am positive that I put 50c in silver in the letter. It was rather careless of me, and I do not think you ought to stand the loss, and so I enclose it again.
D. E. ROBBINS.
Hesperia, Mich., Sept. 17, 1880.

[Many thanks for your generosity, friend R. How strange it is that people are so different in their views of such matters! How cheering it is to find, every now and then, one who insists on bearing not only half, but the whole loss in such cases!]

The 3 ONE-DOLLAR QUEENS bought of you are hatching out bright, full-blooded Italians; that is, two of them. The other, the ants killed in the cage before I had time to introduce her.
E. J. ATCHLEY.
Lancaster, Texas, Aug. 21, 1880.

I was about to give up raising bees, when I heard of the SIMPLICITY BEE HIVE, and saw some of them, and was so pleased with them, I bought several and transferred my bees into them out of the old-fashioned hive. They have been working so nicely since, that I have concluded to try to make bee-raising a profitable business.
MILTON C. SCOTT.
Forsyth, Ga., Sept. 7, 1880.

GLEANINGS AS AN ADVERTISING MEDIUM.

You ask, "Shall I continue your ad.?" For pity's sake, no, no, no! I have been sending back orders for the last two weeks. I send back orders to-day amounting to \$12.90. I have never been so rushed with orders in all of my experience. Such is printers' ink.
W. Z. HUTCHINSON.
Rogersville, Genesee Co., Mich., Oct. 14, 1880.

The smoker is just what I wished. I wanted one that I could light with a match, and this is just the one. And then, the seeds were put up so securely there was no danger of half of them being lost in the mails, as I had some do last summer.

Mrs. E. J. KILLAM.
Dunlap, Morris Co., Kan., Sept. 14, 1880.

GLEANINGS AS AN ADVERTISING MEDIUM.

I suppose you will not feel offended if I tell you I have received more inquiries from my "ad." in GLEANINGS, and sold more stock, than from any other I have, and it appears in some 10 or 12 other papers.

I must also congratulate you upon the new dress in which GLEANINGS appears.
C. W. CANFIELD.
Athens, Pa., Oct. 15, 1880.

I was greatly surprised, on reading "Our Homes," to see how nearly alike our thoughts had been on "good investments;" for it was just such investments I was thinking of while writing you. And God will bless these gifts of cold water in his name, as he has already blessed you in giving to the world your Home Papers, your inventions, and your life. I am pleased with the fresh appearance of GLEANINGS in its new dress. What it contains always seems like a good long letter from some friend. I never enjoyed any work so much as my S. S. class.

WALTER B. HOUSE.
Oberlin College, O., Oct. 5, 1880.

GLEANINGS came swiftly to hand; in reply I would say I am much pleased with it. I still have the Aug. No. for 1879, which you sent me as a sample. I have almost committed it to memory; but your writings from pages 321 to 323 are a treasure to me. I love to study the nature of the bee, and to learn his habits; but reading the above named writing creates in me a feeling which makes me far more happy than bees can possibly do, or any one can dream of. I hope that, while I am your subscriber, you may continue to write thus. It makes me feel as though you were "home folks." May Almighty God, the divine Ruler of the universe, speed you and keep you steadfast to the end.
S. D. RUTHERFORD.
Kearneysville, Jefferson Co., W. Va., July 13, 1880.

The book and frames came to hand, express prepaid. The book is very neat indeed. I was a little surprised at you paying the express on the goods. I would have been willing to pay it myself, even if you did not have the saw. But you will be rewarded in the future for all such acts of kindness.

J. A. WARE.

Reidsville, N. C., Sept. 3, 1880.

[You see, we have some of our heavy tools and machinery sent directly from the factories where made, to save freight, and our customers, not knowing this, often order our goods sent with them. Well, this would make our customers have two freight charges to pay instead of one; or, worse still, when the articles are small they have to be sent by express. Now, in such cases, I have felt in duty bound to pay the charges on the small articles, even though it leaves us with less than their cost. I have done this because no provision has been made in our list for such cases. How very kindly our friend above speaks, when I have done only as I would be done by! Is this world all selfish?]

The bees all came through all in good condition, but I went 5 miles after them three times before I got them. You started them on Monday and I didn't get them until Saturday afternoon. One of them was for my brother. We both think everything of them. They are regular pets, and are doing well. His queen produces pure Italians; but the one I kept produces bees of all kinds. Some have three bands, some two, some one, and some are blacker than my common bees, with no bands on them at all. I am very sorry, but I don't suppose I can help it now. The A B C I got of you is a great help to me. I am a new beginner, and didn't know much about bee-keeping. I study it every chance I get. I wouldn't part with it for \$500 if I couldn't get another one. If you have 15 or 20 calls from this place for bees in the spring, you can lay the blame on me. When I told them I had sent for 2 lbs. of bees and two queens, they laughed at me, but since they have seen them there are 15 or 20 around here who want to send for some of them in the spring.

Truly yours,
JAMES K. GREGORY.
Crooked Lake, Wyoming Co., Pa.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. VIII.

NOVEMBER 1, 1880.

No. 11.

A. I. ROOT,

Published Monthly.

Publisher and Proprietor,

Medina, O.

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NOTES FROM THE BANNER APIARY.

No. 12.

FEEDING HONEY IN THE OPEN AIR.

I HAVE always been told not to feed honey in the open air, as it induces robbing. If fed in its natural state, I have no doubt but that it would; but if it is largely diluted with water it can be fed in the open air, and it will cause no more robbing than will the feeding of grape sugar. We have had a continuous yield of honey here this season, from early spring until the frosts came. Some of the time the yield was light, but I did not find it necessary to feed to start the young queens to laying, until the latter part of September. It was so late in the season that I did not wish to go to the expense of buying a barrel of grape sugar, and, as I had some buckwheat honey on hand, I thought it would be the better way if I could contrive some plan to feed it to the bees. I did not wish to go to the bother or expense of using any "patent, perforated, atmospheric feeders," and so I concluded to try feeding the honey in the open air.

I let honey run into a two-quart fruit-can until it stood about an inch and a half deep in the bottom of the can. I then filled the can with warm water, gave it a good shaking to dissolve the honey, and then inverted it upon a grooved board, the same as I did when feeding the grape sugar. The bees "behaved" themselves while taking this feed, and it had the same effect in keeping up breeding and starting the young queens to laying as did the grape sugar, while the cost was not much, if any, more. I have also tried the grape-sugar candy, and it seems to me to be much the best manner of feeding grape sugar.

FIX UP YOUR BEES FOR WINTER.

If your bees are not prepared for winter, don't wait another day. If you have colonies that are weak, either in bees or stores, unite them. Don't have any weak colonies, if you have to put all of your bees into one hive. If you can't get bees enough to fill one hive, then contract the space in the hive by means of chaff cushions. Make the bees fill—yes, *crowd*—the space they occupy. Give them plenty of honey, then protect them with chaff, sawdust, or something of the kind. I know this advice sounds a little "old," but there are so many of you who neglect these things, that I hope you will excuse me for calling

your attention to them again. In whatever manner you do prepare your bees for winter, do the work *thoroughly*; don't leave any cracks and crevices for the heat to escape.

I have now kept bees four years, and during all this time I have lost only two colonies; and my swarms, each fall, are made up by uniting nuclei the last of October; which plan—uniting nuclei so late—seems to be quite apt to lead to trouble in wintering—at least, I think it is the reason. It is because I never leave a swarm in the fall until it is prepared for winter *just exactly as I think it ought to be*. How many of you have your bees prepared for winter *now*, just exactly as you think they ought to be? Hold up your hands.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

Very good, friend H. I would suggest that those who do not hold up their hands had better—come to think of it, you told them what they were to do, so I have nothing to add. Oh, yes! my hand is up, only that the bees are not all yet united. We are keeping some queens for the brothers who always want one just the last thing; and, by the way, we are going to try again selling queens all winter to those who care to pay winter prices. Last winter we sent them out successfully during every month.

A VISIT TO MEDINA.

IT was our fortune, in the good providence of God, to be brought within forty miles of the above-named place. Being so near, nothing was more natural than that we should feel an intense desire to see Mr. A. I. Root's establishment and apiary, of which every reader of GLEANINGS has heard so much. We at once determined to gratify ourselves, and see the *elephant*—at least so far as bee-fixings are concerned. Taking the morning train on the 24th ult., we were soon landed opposite the brick establishment. Wending our way across the railroad and through the masons and carpenters engaged in the erection of the addition to the main building, we soon made the acquaintance of Mr. Gray,—the foreman, and next, that of Mr. Root himself—all as busy as bees in running the institution. But who do you think put in his appearance almost at the same instant? It was none other than the celebrated apiarian D. A. Jones, of Beeton, Can-

ada, of whom "Neighbor H.," *alias* H. B. Harrington, declared that he was more desirous of making his acquaintance than he would be that of General Grant.

The forenoon was spent very pleasantly and profitably, to myself at least, in discussing the qualities of the three chief strains of bees, in company with Mr. Jones and neighbor H.

When noon came, we were kindly entertained by Mr. Gray and his excellent lady. The noon hour was cheerfully wiled away in a spirited conversation on the great moral questions of the day.

Returning to the establishment, we visited every department, from basement to loft, and were truly surprised at the amount and variety of business carried on. Tinning, smithing, turning, sawing, planing, printing, folding, binding, candy-making, foundation-making, selling, mailing, clerking, editing, and other things too tedious to mention, were all plied. Really, Novice is our busy friend. We wish him success. He has built up an immense trade. We think his establishment the largest of the kind in the world. May he long live to enjoy the fruits of his labor!

Our visit to his place and apiary will ever be a green place in the garden of our memory.

Sago, O., Oct., 1880.

WM. BALLANTINE.

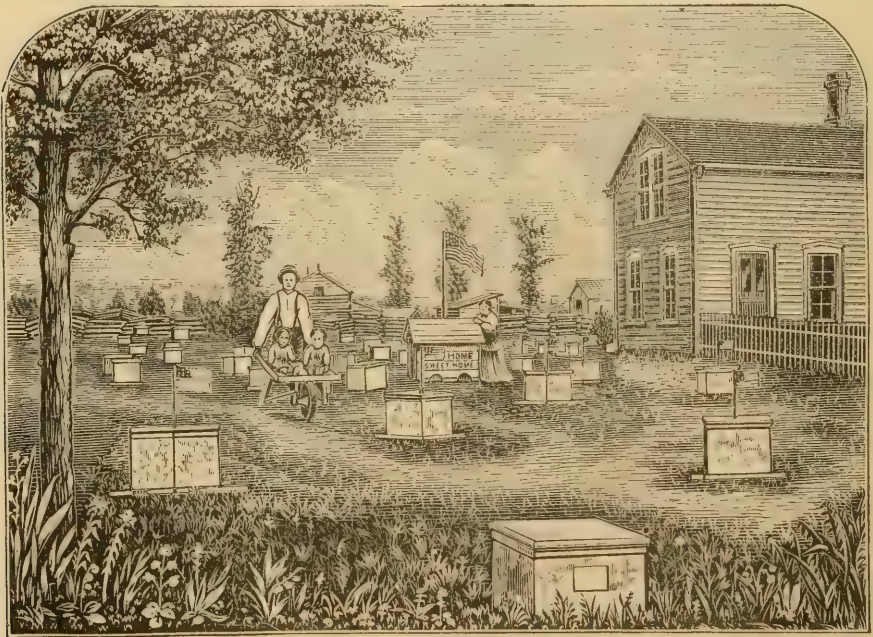
and everything all "spruced up," and *then* have a view taken and send it to you; but the other day a traveling photographer came along, and I could not resist the temptation to let you see how we look *now*, so that, in the dim future, when we send you another photo, you can "look on this picture and then on that." So, here it is:—

Your humble servant is giving his little twin beekeepers their *usual* morning ride upon the wheelbarrow, while their mamma stands near the tenement hive, looking on admiringly—we *suppose*. "Where is the 'new baby,' little gray eyes?" Oh! she is in the house, fast asleep.

The shop stands to the right of the house, and does not show in the picture; but you can see a portion of the cheap lath fence that makes a yard between the two buildings, thereby furnishing the "little chicks" a safe playground. There are some hives to the right of the view that do not show, as well as quite a "sprinkling" behind the house. The log house and outbuildings belong to neighbor W.: you see, he has got his house into the picture, and it didn't cost him a penny; but then, he furnished those nice tall oak-trees, which will, perhaps make it all square. Don't you think, friend Novice, that this picture will *help* to tell *how* I am being happy?

W. Z. HUTCHINSON.

Rogersville, Gene see Co., Mich., Sept. 4, 1880.



STILLMAN-CC.CIN.O.

HUTCHINSON'S APIARY, AND THE BROWN-EYED TWINS.

THE BANNER APIARY, AND THE BROWN-EYED TWINS.

DEAR NOVICE:—If some day, you should come walking up from the railroad station, and should stop, lean against the fence in front of our place and look over, you would see a "bee yard" that would look *very much* like the inclosed photo.

We did intend to wait until we had a new house,

I do decidedly think so, friend H.; and the picture of those two little girls on that wheelbarrow of yours is worth more to me than you can think. I can imagine all the little ones in many a home where GLEANINGS goes, gathering around it just to get a peep. May God bless the children! Are you sure, friend H., you will be any happier in the new house than you have been in this one? I would by no means discourage new

houses, but I think we find, sometimes, on looking back, that our happiest days were passed in the old house. Fix up the surroundings; have every thing well cared for, of course; but if I were going to "drop in," I think I should like to come just as you are now, and have a real good time wheeling the twins around your nice broad yard.

WISCONSIN AHEAD!

A ROUSING REPORT FROM ONE OF OUR OLD CONTRIBUTORS.

EDITOR GLEANINGS:—I hope you are not going to put every one in the "Blasted" department this year—at least, you needn't put us there. Some of the bee-keepers around here say this wasn't much of a year for honey; but I think the following record, showing the daily increase in weight of one colony of bees for 48 successive days will show that, if they failed, it was not by any deficiency in the yield of honey:

DAILY INCREASE IN WEIGHT OF ONE COLONY FROM BASSWOOD.													
July.....	1	2	3	4	5	6	7	8	9	10	11	12	
Pounds.....	2½	6	9	4½	1½	12½	10½	10½	7	2½	6	31	
July.....	13	14	15	16	17	18	19	20	21	22	23		
Pounds.....	5	4½	3	1	4½	4	1	1	5½	9	8		
July.....	24	25	26										
Pounds.....	5	3	2										
FROM WILD FLOWERS.													
July.....	27	28	29	30	31.								
Pounds.....	3	3	3	1½	3.								
August.....	1	2											
Pounds.....	½	1											
FROM BUCKWHEAT.													
Aug.....	3	4	5	6	7	8	9	10	11	12	13	14	
Pounds.....	3	4	3½	2	1	3½	3	2½	1½	2	2	11-2	
August.....	15	16	17										
Pounds.....	1-2	21-22											

You will see by this that they gained 207 lbs., or a little over 4½ lbs. per day for 48 days, and they continued gaining slowly until frosts, about Sept. 10th. This was an Italian colony in a two-story Langstroth hive, 10 frames below, and only 8 above.

We commenced this season with 44 good colonies of Italian bees in hives with good straight combs, almost all built from fdn. We have taken from them 4700 lbs.; 3000 lbs. of basswood extracted, and 1700 lbs. comb honey in sections. We also had 20 strong colonies of black bees, which we got of a neighbor last winter. They were in all kinds of patent hives with movable combs—at least, they would have been movable if they hadn't been waxed to the hive, and the combs all built crooked. We took as good care of them as possible, and got only about 250 lbs. of honey, and no increase. Our Italians increased about one-third. We have sold about 1000 lbs. of basswood honey in sections for 18c. per gross, and about 1700 of extracted for 10c. Our bees are all strong, hives heavy with sealed honey, and in good condition for winter. The 12th of July was said to be the hottest day ever known here. The hive on the scales gained 31 lbs., and there was no mistake about it, for I watched them from 1 to 7 o'clock, and they gained just 4 lbs. per hour. We also weighed two other hives; one gained 24 and the other 28½ lbs.

We also weighed another colony that was making comb honey in one-pound sections. They gained 12 lbs., and they must have built combs for all of it, for their hive was full, and they had been working in boxes about two weeks, and I gave them only a three-cornered piece of fdn., about one inch on a side, for starters. This colony made over 100 lbs. of comb honey in one-pound sections, and several others made as much. Our best yield of extracted honey from one colony was 250 lbs.

FRANK MCNAY.

Eau-Galle, Dunn Co., Wis., Oct. 18, 1880.

Many thanks, friend M. I am very glad of your report, for I have begun to fear some of our friends might get discouraged, and hardly take as bright a view of our industry as it justly merits. Your yield has been indeed wonderful; and, while much may be due to your locality, I am sure much is due also to your management. The colony that gave the great result was a two-story hive, strong with Italians at the commencement of the season, and the swarming impulse was kept down constantly by a faithful use of the extractor. Now, boys, look out that you are ready for it, when God sends you such a harvest as he sent friend M. this season. Will others from that locality please report? We would like to know how much is due to the bee-keeper, and how much to the locality.

REPORT FROM "NEIGHBOR H."

AS it is fashionable for bee-keepers to make reports, we hand you ours. We started in the spring of 1875 with one swarm of Italians, and have now 168. After looking it over, D. A. Jones gave his opinion there was not a better apiary from one swarm in five years in the U. S.

We wintered 56 swarms last season, and lost none; sold \$535 worth of queens and pounds of bees, and fed about \$15.00 worth of maple and grape sugar. We winter our bees on their summer stands, and have never lost a swarm in a chaff hive. We think queens reared in September or October are preferable to any other, as they lay later in the fall and earlier in the spring, giving lots of young bees to work on willow, ground ivy, soft maple, and fruit-blossoms. We had ten frames in each hive by the first of April this season, and had to divide to give queens space to lay in before apple-blossoms were over. There was a splendid yield of red-clover honey this year, and the Cyprian and Holy-Land bees worked rather the best on it.

CYPRIONS AND HOLY-LAND BEES.

We had the pleasure of a day's visit with D. A. Jones, and found him to be one of those practical, common-sense men that one never tires of listening to. He is enthusiastic over Holy-Land and Cyprian bees; and, as far as my experience goes, it will bear him out in his opinion of them. One good point in their favor is, they can not be robbed. The Cyprians will "strike till the last armed foe expires." It is laughable to see them clean out a band of robbers. In appearance, the Cyprians are a little lighter-colored than Italians, with a bright gold shield between their wings. The Holy-Land bees have whitish bands and light gray bodies. The queens are very small when first hatched; long and slim, with dark rings when full grown, and the most prolific layers I ever saw.

"NEIGHBOR H."

Medina, O., Oct. 25, 1880.

I PRESUME our supply dealers have by this time, settled all differences amicably, ready for another season's business.

JUST 5043 subscribers this 26th day of Oct. One more month, and then comes the tumble; but you see we got over the 5000 this year, any way.

In ordering goods from the counter store, if you wish quite a number of articles it will save time to mark the number wanted, right opposite the article on the price list, and send it to us, and we will send you a new list by return mail; or, to save postage, just tear out the leaf containing the articles wanted. We can not well make mistakes then, and it saves labor in writing the names of so many cheap articles.

OUR HOMES IN BOOK FORM.

Part First, of the above, a book of about 50 pages, with a neat paper cover, will be ready to mail in about two weeks. The price will be 13c. each, or \$1.25 per doz. by mail; by express or freight, with other goods, 10c. or \$1.00 per dozen. The books are to be strongly bound, and nicely printed on good paper; and if you wish to lend them to your neighbors, I hope they will last a good while.

AT THE CONVENTION.

SINCE I told you last month, just as the journal went to press, that I was going to the convention, many have written, asking me to tell you all about it. As a full report of the proceedings will be given in other journals, I do not think it will be well to repeat them here. Friend Jones, neighbor H., and I were on hand at the rooms before any one else was visible. As we were in the vicinity of the Zoological Gardens, I proposed we should give them a brief visit; and I wish it were in my power to tell you how much I enjoyed it. You know how much I have said to you, of late, about seeing God through all his works. Well, it seems to me that a view of the different forms of animal life which inhabit our globe gives us a wonderful lesson in this field. One of the first objects that met my view on entering, was some beautiful white birds that stood with their wonderful, expressive, and human-like eyes, so nearly on a level with our own that I almost involuntarily looked for some one to give me an introduction. As neither friend J. nor H. seemed inclined to perform that office, I raised my hat and said "Good-morning!" with as good a grace as I knew how. The bird did not seem at all offended, for he blinked his wonderful eyes at me in a way that seemed to say that he, at least, had no unkind feelings toward me of any sort, and so I put out my hand with a view of scraping acquaintance. At this, he moved his long legs enough to step back a little, and opened his beautiful pink bill and — hissed like a goose. Well, well. I walked off, it must be confessed a little sadly, thinking my romance should all be so suddenly dispelled, and that, instead of learning from his fellow-traveler something of the God who made us both, it was, after all, only a meeting between two geese. I looked back over my shoulder, and said to myself,—

"Any how, I should like to know what God gave you those great long legs for, and what good it does you to be able to hold your head up so high."

While I was thinking that it might have come by an effort through continued ages, to reach for things up high—fruit and berries, you know—I noticed H. and Mr. Jones looking over the fence at something.

"Why, what in the world! Is that truly a crocodile? Why, he is dead!"

"Not a bit of it, dead," said friend Jones.

I looked over the fence at a pole. H. saw where I was looking, and he climbed over the sharp pickets in a twinkling. I confess I was inclined to be a little offended when that big bird hissed at me; but when the crocodile opened his jaws like a barn-door, and gave such an unearthly wheeze, I was ready to run and leave H. to his fate, even though it might have been filling those hideous jaws. But, a look at friend Jones reassured me; for, big as the alligator was, I felt sure if he gobbled Jones he would certainly have no appetite for me that day at least. I was listening very intently with open mouth while friend J. declared that that beast would bite a man right in two at

one bite, when I jumped again at hearing, behind my back,—

"Get out of that yard, and let that 'ere crocodile alone; what business you got inside there any way?"

While I was wondering whether everybody was going to be cross to us, crocodiles and all, H. leisurely stopped punching the great "animile," laid down the long pole, the sight of which might have been equally suggestive to any schoolboy, and climbed back over the sharp iron pickets. He got back very leisurely, compared with the spry way in which he got in. I do not know whether it was because he was afraid of tearing his Sunday trowsers, or whether he was a little mad. You can coax H. to do almost any thing, but he don't *drive* worth a cent. As we passed the man who scolded us, I didn't say anything, but thought,—

"Why can't you be civil to a body that has come down here to see the things you have fixed up? Didn't we give half a dollar apiece? As you didn't send anybody with us, how should we know whether the crocodile was made out of wood (like that painted city over in the pond), or alive, unless we stirred him with a pole? Don't you s'pose a pleasant reminder would have done just as well? You can keep your old crocodile, and stay in the pen with him, if you choose; and if he should eat you up, very likely your successor would try to make the place pleasant-er to your guests."

The convention had got started, sure enough, and I soon got very much interested in the proceedings. When it became known that I really had got out to a convention, I was very courteously asked to take a seat on the stand; and at the announcement that I was present, I was given a welcome that warmed my heart toward conventions, in a way that I had hardly looked for. The exercises of the day were very interesting, and, almost before I knew it, I was enlisted in the work with all my heart, and several times I just caught myself on the verge of shouting "Amen!" as I would do at the young people's prayer-meeting; but still, at the same time I several times felt a longing to sit down amid the audience. I suggested as much, but the president insisted; and when friend Riegel, of the *Instructor*, came and sat with us, I became more reconciled.

It has been many times suggested to me, that I am in danger of getting narrow and contracted views unless I mingle more with the people; and I have no doubt but that it is everybody's duty to avoid getting into ruts, and to let their acquaintance with men, as well as books, be, to a certain extent, of a general character. During that afternoon, I many times resolved to go out more into the world, and to become better acquainted with people who hold opinions even directly opposite from my own. It is worth a great deal to be able to see, face to face, those you have known for years through correspondence. I was very glad indeed to meet Mrs. L. Harrison and Mrs. Francis Dunham, besides a great host of friends of our own sex. The warm grasp of the hand, and the cheering words spoken, especially in regard to the

Home department of the journal, I shall never forget; and I hope my friends whom I met there will not think it was without pain that I left them thus abruptly. I can not take space here to go over the subjects discussed, but you will notice them as they come up, in different parts of the journal.

In the evening I was allowed to sit in the audience, for which I felt grateful. As I listened to the friends who spoke in such a pleasant, kind way of our favorite industry, I was about as happy as I generally get. I had, in my innocence, entirely forgotten the many occasions when, in times past, this very convention had thought it profitable or well to take time to say unkind things of my poor self; and when the president announced that a paper would now be read by the secretary, on the subject that was being discussed (the color of Italian bees), I was as much interested as perhaps any one in the room. Not very many sentences were uttered, however, before I was startled by hearing my own name used, and used, too, in any thing but a courteous way, to say the least. "Lord, help!" came the involuntary inward prayer, as my heart began beating fast. Again it came, harsher and severer than before, and the illusion was dispelled. Here, too, as well as through all my life, must come persecution. As the writer went on in a sarcastic way in his essay about *myself* (as it seemed to me), rather than about *bees*, the blows came thicker and harder. For a time, as I sat there silently, it seemed as if even God had forsaken me. Was there no God in Cincinnati?

Perhaps I seemingly exaggerate, my friends, because I feel pain so acutely; but I feel joy just as keenly, and so I presume it is all right. I was not left in darkness long, and the presence of my Savior seemed tenfold more dear for the experience of being without him just one brief moment. A verse of my favorite hymn expresses how I felt:—

Let the world despise and leave me,
They have left my Savior too;
Human hearts and looks deceive me—
Thou art not, like them, untrue;
And, whilst thou shalt smile upon me,
God of wisdom, love, and might,
Foes may hate and friends may scorn me—
Show thy face, and all is bright.

That "face" was shown, and all was "bright," truly; and, in one sense, I did not care any more about it. My worst anxiety was that H. might not take it as calmly as he did when the man scolded him for punching the crocodile. I prayed for him and he did pretty well. As soon as it was ended, a host of friends were on their feet, and they took my part in a way I shall always remember; but I would much rather they had let it all drop. The president explained it as a joke, and said something to the effect that the convention was a "high-toned one," and of course would not do anything out of keeping with that idea. Poor H.! the temptation was too strong, and, although his question related entirely to bees, he addressed it to the "high-toned convention" with an emphasis that was rather significant. I felt rather glad when the time came that he should leave to

take the train for his home. The question now came up, should I stay during the whole session, as I had fully intended to do, or should I go with him? I wanted to go home; or, at least, I wanted to get out under the stars, any way. Nearly an hour had been wasted in defending me. Was there any good guarantee that the time of the next two days would not be wasted in a similar way? I was wanted sadly at home. The talk had now drifted on the old disputed ground of the yellow bands on the Italians, and as I felt sure I could, by a few words, at least partially harmonize the many conflicting opinions, I spoke briefly; then gave them a little talk on charity for each other, and then God seemed to say, "You may now go home."

I had enjoyed the day; but there was a new kind of peace with me as I went out into the open air. It was so late that I feared I should miss the train; but at once came the thought, "He told you how long to stay, and when you might go; waste no time, and he will place you on the train, unless it is his will you should do something for him elsewhere." Another verse of that hymn expresses it:—

Man may trouble and distress me;
'Twill but drive me to thy breast;
Life with trials hard may press me,
Heaven will bring me sweeter rest.
Oh! 'tis not in grief to harm me,
While thy love is left to me;
Oh! 'twere not in joy to charm me,
Were that joy unmixed with thee.

Everybody of whom I inquired the shortest route, seemed to take it for granted that I knew something about Cincinnati; but the truth was, I had followed my friends of the morning without looking, and I didn't know anything at all, unless it was that I was in my Savior's care, and he would direct. He did, and the plain, kind directions I received as to how I could run across lots, as it were, from one street-car to another, so as to save time, came from a kind old colored woman. I shall always remember her race with kindness for this one act. The Bible says, "All things shall work together for good to those who love the Lord," and, while I do not mean to say I am glad anybody has been tempted to do a wrong thing, I do feel that God has so turned the wrong, that it has done me good. I shall be more careful hereafter, in publicly criticising anybody who is willing and trying to do right, and I shall thank God for honest and sincere friends as I have never done before. It does not seem to me now as if it was my duty to try to attend conventions; but I am willing to go whenever God seems to call me to do so, even if it should be a cross and a trial to do so.

As I stepped on the last street-car, I told the driver I wished to catch the excursion train. He said it would be close work, but that he would try to make it for me, and so he signaled for hurrying the horses a little. Although he was quite young, only about the age of my own boy, he had a very pleasant and courteous bearing, and seemed to be one of those real nice, "clean" boys, whom it is such a pleasure to meet. A man arose in the car, and walked out on the steps. The car slackened, and when he called out

"stop!" it almost ceased moving. Our young conductor was busy with his head another way; but, as the gentleman had ample time to get off easily, he, without looking, signaled for the car to start up again, thinking, I presume, of getting me through. All at once we were all startled by hearing,—

"Stop this car! I would have you to understand, sir, that when I say stop, I mean stop!"

As the boy very courteously apologized, saying he supposed he had stepped off, the car came to a standstill, and a female, from the further end of the car, very deliberately arose and came the whole length of the car and got off. I took a good look at the man with the big voice and so much authority. He might have been a Sunday-school superintendent, or even a minister, by his looks; but, for all that, he kept on in his harsh words until the boy's face lost its gentle look and paled with anger under his uncalled-for severity. Why, oh! why could not this man have remembered that the boy might have had reasons he knew not of for seeming to be neglectful of his customer's welfare? Why could not that woman have been thoughtful enough to the needs of others besides herself, to have been near enough to enable her to have stepped off, and saved so much pain? The boy indulged in some profanity; but I could not help wondering if the recording angel above had not marked two scores against the name of the man where he had put down one for the boy. I sympathized with this young fellow-traveler, as I never did before. May God help us all! and especially may God help me to remember that—

A soft answer turneth away wrath; but grievous words stir up anger.—PROV. xv. 1.

Reports Encouraging.

BEES are gathering at present at the rate of 5 to 6 lbs. a day. PAUL L. VIALLOU.
Bayou Goula, La., Oct. 14, 1880.

I have 44 stands of bees; commenced last spring with 38, increased to 44, and got 2500 lbs. of honey. Columbia, Mo., Oct. 6, 1880. J. W. BRADLEY.

My bees will average from 45 to 50 lbs. to the hive, which I think a fair yield, but it is mostly buckwheat honey. DAVID S. CARLL.
Deer Park, Suff. Co., N. Y., Oct. 11, 1880.

I had 63 swarms of bees last spring; increased to 140 swarms, and had about 5000 lbs. surplus comb honey. C. H. G.
Manson, Juneau Co., Wis., Oct. 9, 1880.

My bees have done well. I commenced with 45 swarms and increased to 94. Got about two tons and a half of honey, one-half comb, mostly basswood. A. J. TIBBETS.
Downsville, Wis., Sept. 27, 1880.

I have last spring with one colony of Italians; increased to four, and took out 40 lbs. of surplus comb honey. They have now from 30 to 50 lbs. each for winter. WM. A. MURKAR.
Aberdour, Ontario, Can., Sept. 27, 1880.

My yield of honey this season has been 89 lbs. of comb honey per colony. Some have gone far above those figures, but that is the average. I have 35 colonies. W. E. MCWILLIS.
Collins, Oregon, Sept. 8, 1880.

I carried my honey to market the 16th of this month. Sold comb honey at 16½¢, and extracted at 12½¢. So, my bees have paid me *eleven dollars* per hive this season. That is pretty good, I think, for a Texas bee-keeper. E. J. ATCHLEY.
Lancaster, Texas, Sept. 20, 1880.

The 1-lb. sections are something new in this locality. I have taken 80 lbs from one hive. My husband has been selling it in his store, and thinks it would be well to keep it on hand.

MRS. RICHARD WILLIS.
Towson, Baltimore Co., Md., Oct. 6, 1880.

For an A B C scholar, I get along very well this year, considering the poor season. I had 7 hives in the spring; increased to 19; got 264 lbs. extracted honey, and 90 lbs. comb honey in 2-lb. sections, black bees at that. It is the general complaint here among the bee-keepers, a poor season and very little honey. Devizes, Ont., Oct. 12, 1880. WM. COLEMAN.

OUT OF BLASTED HOPES.

I carried only 15 colonies of bees through last winter, but got about 1600 weight of honey this fall, and increased to 40 colonies. Take me out of Blasted Hopes. A. L. KLAR.
Pana, Ill., Oct. 7, 1880.

With all the pleasure in the world, friend K. Give us your hand, and step right out, and go on prospering with the 40 colonies.

NOT IN BLASTED HOPES.

I see myself in Blasted Hopes in last GLEANINGS. Hopes all blasted? No, sir, not I. I am too old for that. My yield of honey has exceeded that of others in this neighborhood for the five years since I commenced to keep bees. I lost none last winter. I have examined my bees since I saw myself in Blasted Hopes, for I don't believe I belong there. I find they have store for winter, by dividing equally. I have taken 725 lbs. from 26 colonies which I had last spring; increased to 48 by natural and artificial swarming, which gives 24 lbs. each. My old stocks have beaten Bingham's 10 lbs., according to report.

N. A. PRUDDEN.

Ann Arbor, Mich., Oct. 17, 1880.

I really beg pardon, friend P., for I think I was in error. It seems to be one of my be-setting sins, in my anxiety to have Blasted Hopes kept up, to get in who do not belong there.

BESIDES the tested queens mentioned elsewhere, we have about 20 nice young hybrid queens to spare.

FRIEND NELLIS is cross, Faris is cross, Given is cross, and there are so many others who seem to think they must be cross or they won't get along, that I am sometimes half tempted to say, in the language of the Psalmist,—

"They that hate me without a cause are more than the hairs of my head."—Ps. lxxxix. 4.

Perhaps I lack wisdom; but, my friends, I have tried to do right, and to be unselfish. The October *Exchange* says:—

In spite of all the good qualities that friend Root, editor of *GLEANINGS*, has developed, he yet has one obstacle hard to surmount, viz: he has difficulty to speak well of the inventions of others, that he can not himself control. This holds true of most kinds of apianian supplies that he does not invent or manufacture.

Now, friend N., this makes "two times" you have been cross. I don't believe I want to control any thing or anybody. All I have ever made or invented, anybody is at liberty to make or copy—even my A B C book, as there is no copyright on it. I gave Faris over \$100 for inventing a machine that would spoil our roll business; and I did so, too, when I did not think his machine practical, for fear he would feel hard about it, and he feels hard now. What more can I do? I like the Peet cage; but, before dropping my own for it, I wanted to draw out the experience of those who had used it. Was that not right? Come, now; let us show the world there are two people at least who can be pleasant to each other, even if they have got a "bee journal" apiece. How much money shall I pay you or Mr. Peet for the privilege of using some of the features of your queen cage, in one of my own get up?

THE BUCKET HIVE.

INCLOSED you will find a circular. I wish you could see the *humbug hive* also. I took one of my *Simplicity* hives out while Mr. Parker was in our town, and made him own up that the *Simplicity* Hive was the best he ever saw. The old gentleman appears honest; but such a hive! Just a square box with some triangular pieces nailed to the top, and a bucket turned over on top of the cover for surplus honey. I told the old gent if I considered the bucket of any account I would use it, any way; he threatened me with all parts of the law. He said Root would call it no patent. Any way, he could not sell one in this county.

San Marcos, Tex., Oct. 4, 1880.

There are some rather sensible ideas about this bucket arrangement for surplus; but the idea that a patent can prevent you from having your honey stored in a bucket or any other household utensil, if you want to, is most ridiculous. As some parts of the circular are rather interesting, I give the following:

HOW TO MAKE TOP OF HIVE.

Take a board 18 inches wide, $\frac{3}{4}$ or $\frac{1}{2}$ of an inch thick; saw in pieces 16 $\frac{1}{2}$ inches long; nail strips on the ends 18 inches long by 2 inches wide, and $\frac{1}{4}$ of an inch thick; this will prevent warping and splitting; strike a circle in the center 11 $\frac{1}{2}$ inches in diameter; then four more, one at each corner; cut out a slot on each side of the center circle (on the inside), two 2-inch holes or slots; follow the 11 $\frac{1}{2}$ -inch circle with the holes or slots; these holes are for the bees to work up through into the honey department. You can use two sizes of buckets, the common size such as you find in every store, and 8-inch bucket if you use the larger size. My experience has taught me to use but one at a time; when I use the large ones, this bucket covers the holes or slots; when using the 8-inch bucket, put on four at a time, they cover the holes or slots also.

HOW TO USE THE BUCKET.

Sharpen a 6d. nail, and drive it through a tin piece of wood 2 inches long; stick the nail through a piece of honey; drive the nail slightly in the side of the bucket at the top; when placed in position on the hive, this will cause the bees to go to work sooner than they otherwise would.

When the bucket sounds solid all round, it is full, and can be removed.

HOW TO REMOVE THE BUCKET.

Take a long thin knife or trowel, run it under the bucket so as to cut the comb from the top of the hive; tilt the bucket enough to see if it is full and well capped; if the honey is not well capped, replace the bucket, as the honey will ferment if not well capped; tilt the bucket so the comb will bear on the edges; this prevents the comb from breaking; if the bucket is full it will weigh from 20 to 24 pounds. I have several hundred hives, and they will average this year 80 pounds to the hive.

HOW TO GET THE BEES OUT OF THE BUCKET.

Stick a piece of honey into an empty bucket, as directed; take off the full bucket; set on the ground near the hive; place the empty bucket over the full one; tap the full one around the sides; the bees will, in a few minutes, all go up into the empty bucket; then place the empty bucket on the hive, and the bees will soon go to work on the empty bucket; should the bees seem to cluster and not disposed to leave the bucket, look for the queen; she is sometimes in the bucket; put her at the entrance of the hive; after the bees group up into the empty bucket, set it on the hive with the bees in it; but should all the bees fail to go up into the empty bucket, which is frequently the case, remove the empty one and place a piece of paper or cloth over the full bucket, and the bees will go up on the paper; then shake them off at the entrance of the hive; should you have no empty bucket handy, use the paper instead of the bucket.

Another way to get the bees out of the bucket is to take the bucket into a building near by, the darker the better, and knock on the sides of the bucket, and the bees will come out and go back to the hive. The bucket can be used on any shaped hive with a level surface; if you want to use the bucket on your old hives, cut a slot in the top 2 or 3 inches wide, just so the bucket will cover it; experience has taught me that the large holes through the top is the best; the bucket idea has many advantages over any other thing I have ever seen or tried.

CHEAP AND ENDURABLE.

It is cheap, and can be bought at any store convenient to the bee-keeper. Holds the drip convenient for shipping; the merchant will sell it on less commission; keeps out insects, and is as good for combs as the bees before using it for honey.

I use what I call a weather-board to go over the top of the bucket, to protect it from the sun and rain. It should be made of good lumber, free from joints and splits, 18x18 inches, strips nailed on the ends to prevent warping.

All framed hives or boxes for honey have proved a failure, for general use. They cost too much. It takes a mechanic to make them; they are hard and difficult to work after made; the honey must be boxed before shipping, and there is a constant loss from dripping from the time they are taken from the hive until sold. You never know how much the loss is until you are lost altogether.

Another objection is, the queen gets in the honey frames and fills the middle frames with young bees; they have to be torn to

pieces to get out the comb containing the young bees. The queen will go up in the bucket, but you have a showing, you can see and cut out the comb, and set the bucket on the hive, and thus let it be filled, or replace the vacuum with comb, and ship in this way.

The queen seldom goes up in the honey department after the swarming season.

MOTH-PROOF HIVES.

There is no such thing as a moth-proof hive. All old bee-keepers will tell you that whatever will keep the moth out will keep out the bee. The moth-worm does not keep out the bees. One cause of the bees dying out is the queen becomes barren, the bees commence dwindling; the moth then enters the hive, and in a short time the bees die out or leave the hive. They would die out if there was no moth-worm in it. I have seen bees die out and not a moth-worm about the hive, and in a few days the hive would be full of moth-worms. Another cause is, in the old-style hive, people are too apt to rob their bees too late in the season, and then it is natural for them to die out. Pay no attention to the moth preventative, even in my patent, for if the bees are not able to protect themselves, they are not worth having. Don't put the bucket on the hive until it is full below. Take it off at the end of the honey season; some of them will be partly full of honey; put the wooden covers over them to keep out dust, and set them away until next season. If you have no wooden covers, tack a piece of cloth over them.

Experience has convinced me that charcoal is the best thing to use in hives. Throw up a ridge of 10 feet wide, just enough to keep the water from standing under the hives; put a bushel of charcoal 5 feet apart each way, pound it down level and set the hives on. The coal will keep down grass and weeds, and ants won't build in it.

I first tried tin cans dipped in hot beeswax before putting on the hives. The bees filled them very prettily, but after taking them off, I found the honey would soon ferment. My experience is, that the wooden buckets are the best, and that honey will not ferment in them.

The intelligent, live, enterprising citizen cannot fail to see the many advantages in the hive as an artificial swarmer, and the bucket, as used by me, as a safe, cleanly and durable honey package.

For further information address or call on

JESSE W. PARKER, Patentee,
Columbia, Texas.

N. B.—All persons using the bucket, or any part of my invention on any hive, new or old, without my consent, will be prosecuted to the extent of the law.

J. W. P.

There, friend P., we have given you a good advertisement free; the remarks about moth-proof hives are pretty good, especially from a patent-hive man.

A LETTER FROM GEORGE GRIMM.

SOMETHING ABOUT BEES FOR HONEY, RATHER THAN
BEES FOR LOOKS.

ISEE in the May number of your valuable journal, a communication from E. Gallup in reference to the question of improving bees. His opinion is, that we should endeavor to breed bees that come nearest in all respects to the highest standard of excellence. He says that, in accordance with his experience, and also with the experience of the late Adam Grimm, the dark, leather-colored Italians invariably take the preference to the extra light-colored. That this was my father's experience, I can vouch for, and it has also been my experience during the last two years. If bees are wanted that have no superior for honey-gathering, breed the dark, leather-colored Italians, or a good strain of hybrids; but, if bees are wanted for sale, breed the light-colored Italians. I found, when I sold off the 1400 colonies of bees during the two years succeeding my father's death, that, although intelligent bee-keepers evinced their complete satisfaction, there were yet many who would have been better satisfied had the bees been of a brighter yellow. This fact explains itself when we consider who it is that usually buy bees. But few practical bee-keepers buy their bees. If they meet with loss they resort to increase, not to purchase. It is the unskilled in the profession that usually resort to purchase. They rarely, at the time of purchase, know more about bees than that the Italians are better than our native bees, and that the former are yellow and the latter black. Of course, the bees must be warranted pure, for he wants only the best. When they arrive he is ignorant as to whether or not they fill the bill. If the color does not suit his more experienced neighbor, he is not

satisfied, and will probably believe himself duped until such time when his own education will enable him to judge. So much about selling bees. The main reason of my writing, however, is to ask Mr. Gallup a question in reference to the relative qualities of hybrids and Italians. Much has been said in reference to Italian and black bees, but rarely has the subject of hybrids been touched; and still I am inclined to think that there are more of these in this country than of either of the pure breeds, and that they possess many excellent qualities. Has not Mr. Gallup's experience verified the following, that there are strains of hybrids unexcelled by our best Italians for their qualities as honey-gatherers? I have hybrids in my apiaries that *may* be equalled, but certainly not excelled, nor are they particularly cross, as is usually the case with our best hybrids. Many times, during the last few years of my father's life, have I heard him say, while in conversation with other bee-keepers, that, if it were not for selling bees, he would not take so much trouble to keep his bees pure, as he believed his hybrids to be fully equal to some of the best Italians. "They are crosser," he used to say; "but that is what I want. My crosser swarms have always brought me the most honey." Docility may be a commendable quality in the Italians, and that fact alone would doubtless influence many in their favor; but there are many like myself, who lay little weight upon that point. I make no pretensions to be able to examine my bees without a protector and smoker, and should any one attempt it, he would certainly be unmercifully stung. It is honey that I want, and not docility or beauty of bees; and those who aim at the same end will not despise our hybrids because they are cross.

May I be rightly understood? I do not say that on an average our hybrids are equal to the Italians; on the contrary, they cannot compare with them; but this I say, in view of the discussion about the improvement of bees, that there are strains of hybrids of most commendable qualities.

I hope Mr. Gallup will continue to contribute to GLEANINGS, as it cannot but lend that appreciated journal an additional charm, as his spicy and interesting articles always did the *A B J* during good old Samuel Wagner's time, as Novice must well remember.

GEORGE GRIMM.

Jefferson, Wis., June 22, 1880.

Many thanks, friend G., for your valuable and timely hints to our A B C class. Well do I remember the time when we used to turn the pages of our *Bee Journal* to find the articles headed "Gallup." I fear our friend has almost too many calls in the practice of medicine, to enable him to enter into the spirit of bees as he did once; but we trust he is trying to do his duty by his fellow-men, in the way God seems to point out to him most clearly. Will friend Gallup try to take time to reply?

Boys' Department.

A BOY'S EXPERIENCE IN BEE-HUNTING.

I HAVE been in this county two weeks, and have visited a great many bee-keepers. They all had Quinby hives, and mostly all Italian bees. They say they are the best ones to handle, and gather more honey than the blacks. The most honey,

they say, comes from basswood. I have had a good time in the country with the bees, for a friend asked me if I wanted some bees. I told him yes. Then we went with the ax and buckets toward the woods. When we arrived there I began cutting a live-oak tree. It had three limbs, each one containing a swarm of bees. He told me that they were in that tree since April. That was when he had seen them flying about the limbs. Now, I want to tell you something about the work we had to get them out of those limbs. When I began cutting the limb off, the bees got mad and began stinging me and my partner, and a very bad job we had with them; but for all their stinging I did not care, for I was anxious to work at a bee-tree, for it was the first one that I ever cut down in my life. My partner was stung fearfully. I had my share of it too, but for all that I got 3 swarms of bees and 5 tubs of honey, and a great deal of wax. GEO. A. SCHAFER.

New Orleans, La., Oct. 5, 1880.

I should like to tell you a little about my bees. I bought one swarm from a negro man for 25 cents, and it was an Italian swarm. I will not take any honey from it this year, for they are rearing nothing but young bees. The next year, if I live, I will try to make an artificial swarm. I am 13 years of age, and am learning to be a cabinet-maker. My father is teaching me the trade, and then, when I know it, I can make my own hives. My brother, George A. Schafer, will show me what I do not know about bees. I also read GLEANINGS, which he gets from you every month. If I live, till New Year, I will get GLEANINGS for myself. Do you think cabinet-making is a good trade? If I find anything about bees worth knowing, I will let you hear about it; for I am watching them closely. HENRY J. KOOKE.

New Orleans, La., Oct. 5, 1880.

I think the cabinet trade a *very* good trade indeed, friend Henry.

Bee Botany. OR HONEY PLANTS TO BE NAMED.

A YELLOW ROCKY-MOUNTAIN BEE-PLANT.

ENCLOSED I send you a specimen of a plant which grows in great abundance in and around this town. The bees work on it early in the morning, and it yields considerable honey of a yellow or slightly red color. People here call it "wild mustard;" but as it looks very much like the picture of *Cleome integrifolia*, in Jan. No. of *A. B. J.*, I call it Rocky-Mountain Bee-Plant. But as I have not my back numbers here at present, I am not certain. Please tell me whether I am correct or not.

WM. MUTH-RASMUSSEN.

Independence, Cal., Sept. 13, 1880.

It has a startlingly familiar look, and, were it not for the color of the blossoms, and difference in leaves, I too should say that it is a very near relation of our famous *Cleome*, Spider Plant, and Rocky-Mountain Bee-Plant. Sure enough, for *once*, at least, we are right. See what Beal says:

This is *Cleome lutea*, a species nearly related to *Cleome integrifolia*.

W. J. BEAL, Prof. of Botany and Horticulture.

BISHOP-WEED, BRANCH OF.

I inclose a plant, name unknown. I think it is called Goose-fennel. Please name it. The bees fair-

ly swarm over it morning and evening, from middle of June to this time. It grows here on the swamp. It may be old to you, but it is new to me. If it can be "tamed" it will be an acquisition as a honey-plant.

GEO. H. WADDELL.

Coronaco, Abbeville Co., S. C., July 20, 1880.

Prof. Beal says:

The branching one, the plant, is *Discopleura capitata* (Bishop-weed).

W. J. BEAL.

Ag'l Coll., Lansing, Mich., July, 1880.

EVENING PRIMROSE.

Inclosed, I send you a specimen of honey-plant, which I find not very plentiful, but sprinkled here and there along the roadside, and in the low lands where the wild prairie grasses are killed out. It is a great honey-plant. Early in the morning it can be seen standing out in diamond-like beads at the base of each bloom; and the bees—oh my! how they do work! It is a constant hum for about two or three hours every morning. I send these samples for you to name them; and, whether or not you know anything about the plant as a honey-producer, I am going to save some seed to experiment with next season.

W. C. HAVELEY.

Falls City, Neb., Sept. 14, 1880.

Prof. Beal answers as follows:

The fragments sent us are incomplete. The specimen sent is some species of *Oenothera* (evening primrose.)

W. J. BEAL.

Michigan Agricultural College.

Well, now, that is good news! Our old favorite, the evening primrose, is a honey-plant. Years ago, I saw in Vick's catalogue that he had an evening primrose, or *Oenothera*, as it was called, that bore flowers—was it five inches across?—I really can not remember, but it was certainly a big story, or seemed so. Well, the flowers bloomed, and they measured, some of them, even further across than Vick said they would; and at evening all the family were delighted to see the wonderful life-like movements, as the great showy petals unfolded. As if to cap the climax of our wonder, a little later some gaudy-plumaged and graceful humming-birds came, and, as they flitted in the dim dusk from flower to flower, unfolding tongues that seemed for all the world like miniature spring tapes, they became the wonder of the neighborhood. We never clearly decided whether Vick sends humming-birds to go with his *Oenothera* seed or not; but they always came with ours; or, at least, when the flowers came the humming-birds were on hand. Of course, they were after honey. Well, a few days ago a wild primrose was growing down by the pond, and as soon as I saw it I was reminded of those we used to have with the humming-birds. A few days after, a very unusual number of Italians were hovering round this plant, and I was wondering then if this was not a variety, that yielded honey so that the bees could get it. Now, your letter, friend H., makes it all plain, and we want some of those seeds. Since it has come to mind, we want some more of those that bear the big flowers too; and if Vick should ever happen to see what I have written, I hope he will be kind enough to send me a paper. If he has improved them so they are seven

inches across by this time, I shall not complain at all, for I shall expect the humming-birds have improved in the same proportion. If I have got any of the dimensions too large, I assure you it was unintentional.

Humbugs & Swindles, Pertaining to Bee Culture.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

MRS. COTTON.

It appears that Mrs. Cotton is still practicing her old game of advertising what she never intends to furnish. I sent to her for the book on bee-culture, containing her photograph, which she promises to send for one dollar. I wrote her that, as I had sent her four dollars, at one time, for her "Controllable bee-hive," and was swindled out of that by not receiving anything but an imperfect model of what she termed her "Controllable bee-hive," I dared not trust her again; but, if she would send the book C. O. D., I would remit the one dollar on receipt of the book. Now, friend Root, I agree with you in thinking there is no such book in existence; or, if there is, and, as she says, she has inserted her photograph "at the request of distant friends," those friends are so few and so distant, that none of them will ever receive any such book at all, from her. I shall look for some information in regard to Mrs. C., and her book on bee-culture, in Nov. No. of GLEANINGS.

A. P. F.

Ludlow, Vt., Oct. 1, 1880.

The writer of the above is now with us to learn bee culture. Her reply to him is given below:

A. P. FLETCHER:—You are unworthy of credit, as your statements clearly show. I would trust a dog with my dinner sooner than you for one dollar. Your false and slanderous statements on postal card show you to be a cur of the vilest sort. If you send me one dollar I will mail you the book; but I trust none of your sort. You are a fit companion for A. I. Root.

MRS. L. E. COTTON.

West Gorham, Maine, Oct. 8, 1880.

Well, now, I protest, Mrs. C., against such partiality. I sent you a dollar for the same book, years ago, and I have your letter of acknowledgement, and later ones promising the book as soon as published; and yet, you speak in that disparaging way of old friends, when their name happens to come out. Please, Mrs. C., can't I have a book too, or have my dollar back? Do you not know by experience, that "hope deferred maketh the heart sick"?

MITCHELL.

I notice, in the publication of GLEANINGS, that you occasionally allow a column for the exposure of such as are imposing or undertaking to impose upon the public; and I desire in that connection to give you a few hints with regard to one N. C. Mitchell, who, in advertising what he calls his "Honey Extractor," and in filling orders for same, is almost within the statute against getting money under false pretenses, if not quite so; and if some of the many he has swindled would take the proper steps he might

enjoy the luxury of a term in the State prison. In one of his circulars, issued in 1877 or '78, he states that his firm will in May, 1878, remove 1,000 bee stands to Sandusky City and start a large apiary for the culture of queen bees, and if my information is correct, he never moved a single stand there. This big talk was to give him credit and importance and make the public feel safe in sending orders with the money to him, when he intended, as his conduct shows, to get the money and make no return for it. Some time about the 18th of December, 1878, I sent to Mitchell \$13, for which he had agreed to send me two "honey extractors" and two farm rights and an agency to sell territory. On the 22d of December, 1878, he answered my letter, acknowledging the receipt of the \$13, and sent me the two rights and a power to sell territory, but said that the Extractor factory was shut down during the cold weather, but would be open in three weeks, and he would send them as soon as the factory was put to work. I wrote to him about once or twice afterward and got no reply from him, but on the 30th of April, 1879, I got a letter from the firm of Ritchie, Costa Magna & Co., of Indianapolis, who, it appears, were running the Extractor factory, in which they stated that so many complaints had been made that they did not want any orders sent to McDougall, who, they said, had been manufacturing Extractors for Mitchell; but that they thought I had long since received my Extractors until they got my letters, and they further stated that they would see that I got them if they had to send to Paris for them. Since then I have written several times to Mitchell, requesting him to refund the money, to none of which I have gotten any answer.

I should like to know if Mitchell has a patent right to his improved modes of swindling; for, if he has not, I shall very probably try what virtue there is in a grand jury in such cases as his. I should like to have this matter ventilated in GLEANINGS.

PETER BRICKEY.

Lawrenceburg, Ky., Sept. 28, 1880.

I am very sorry to tell you, my friend, that I fear your money is hopelessly lost, as hundreds of others have lost theirs by sending it to Mitchell; but you will find their record from back volumes. If any thing can be done to put a stop to this work, I will cheerfully help pay the expense of so doing.

MITCHELL.

FRIEND NOVICE:—Yours of the 7th inst., asking for information concerning the whereabouts of N. C. Mitchell, is received. He is located at Smithfield, Mo., 14 miles east of Columbus, Kan. About a year ago he traded territory in southwest Missouri for the farm of Mr. Buchanan—the place on which he is now supposed to be settled down. Last spring he called on us at the factory, and introduced himself as the "Great Swindler," N. C. Mitchell. We talked with him about 10 minutes. Among other things, he stated that he had started an apiary on the Buchanan farm, and was prepared to furnish queens in large quantities. We offered to buy, but he had none to spare at the time. After leaving an order for 300 queen shipping-cages, and paying for the same, he took his departure.

A few days ago, an acquaintance asked us if we knew anything about N. C. Mitchell of Smithfield, Mo. After giving him what information we had in stock, he stated that Mr. M. had offered him "big

money" to go down to Little Rock, Ark., and start a paper—ostensibly his own, but really the property of Mr. M., to be run in the interest of the sale of territory in that State, for the Mitchell Adjustable Bee Hive. Our friend also told us that Mr. M. was about through with Missouri, and was preparing to take in Arkansas next; that the price offered for his services at Little Rock was so big that he became suspicious, and declined to accept. So much for Missouri and Arkansas.

Friend Novice, you needn't pull down the humbug column, for, in all probability, your friend Mr. Mitchell will abide with you for some time to come.

SCOVELL & ANDERSON.

Columbus, Kan., Oct. 12, 1880.

JUSTICE OR MERCY, IN BUSINESS MATTERS.

ON p. 247, July No., I find two questions referred to your readers, as to what you shall do (*should or ought*) in specified cases; and, as they relate to a subject often mentioned in your columns, my feelings have filled up till I must give you my mind in the matter.

The first question, as to your duty with H. H. Brooks, Belmont, Texas, who refuses to receive goods ordered, would seem to depend merely upon the *responsibility* of the man for the amount of charges. As you have guaranteed them to the express company, you must assume them. If you can collect them out of Brooks, *it is right you should do so* (according to your own and his published statements).

In the second case, where 500 sections were rejected and returned to you so summarily, you should simply let them alone and retain the money—or, at least, enough of it to make yourself good, whether you accept or refuse the returned goods.

Let us suspect my motive in this off-hand decision, and perhaps the correctness of the latter, I must assure you that I decided both questions on their merits alone, with a view to do *justice* to the parties immediately interested. And, let me ask you plainly, is that the paramount consideration with you in all such cases? because, if it is, it would not seem so difficult to apply well-known business principles to the very easy and infallible solution of similar problems. But you will say, "I wish to do as I would be done by." Perhaps, then, the other man is right; for, if you were in his place, you might want to be "done by" just as he does; hence, to "put yourself in his place" is hardly a safe rule to go by—in some cases at least. But, is not justice—simple and exact—the very essence of the golden rule in business matters? Is it not the *only* principle to be guided by—especially in the conduct of a large business? I have read before of your perplexity when a five-cent article would be returned by some very mean or very ignorant person (for none other would be guilty of it) because it did not tally with their expectations; and whenever I notice such a case, it seems to me that your fear of giving offense to individuals, warped or clouded your judgment as to pure right and wrong involved.

Yet there is another consideration which should forbid your pecuniary sacrifice in cases where you are not to blame, and that you have referred to more than once; viz., the consequent necessity of advancing prices to make yourself good against such undesirable customers; for, of course, in the long run, it

is your *paying customers*, and not yourself, who have to make up the balance on such losses; otherwise you would be forced to give up business.

Now, I say for one, that I do not wish you to assume responsibility for any mistake of mine in any dealings between us, and I do not see the justice of imposing on me an extra price for goods I may want of you simply because some one else demands more than is fair. Is not that it in a nut-shell? No man should ask more of others than he is willing to concede himself; and any one who is unwilling that the above rule should be applied to himself, wants more than fair dealing calls for. Of course, all due precautions should be taken (as you undoubtedly do take them) to prevent and correct mistakes before closing the transaction. After that, it is perfectly clear to a disinterested observer who loves the right, that your responsibility ceases. *Let these careless ones pay for their own mistakes.* That will be an actual benefit to them, as well as do right by all concerned.

Very likely your troubles of this nature are multiplied because of your well-known anxiety to do more than your share in all cases of doubt; relying on which, many would use less care in dealing with you than they would with other parties at a distance, and especially with those known to them only through the medium of printer's ink. It is my humble opinion, that if you give out and rigidly adhere to the rule I have given, your troubles of that nature will soon be reduced to a minimum. Where you assume risks, as in the case of express charges, for the sake of your patrons you should exact the amount in advance to secure you against loss, the same as you have been obliged to do for your goods. That will effectually prevent the recurring of any such mistakes as this Texas man's, as, of course, it is evident that, had this rule been applied in his case, that trouble would have been prevented. Let me suggest, that you formulate and print conspicuously and briefly in your journal, every month, rules for the guidance of all your mail customers (and yourself) *to be inferibly observed*—unless you see good reason for relaxing them in special cases. And don't publish those special cases, unless you want more trouble.

E. H. MARSH.

Danbury, Ct., July 22, 1880.

Many thanks, friend M., for bringing out so clearly a very important point. But, my friend, are you not overlooking the element of mercy entirely. in your excellent essay on justice? I know it is not right to pay out our money because other people have made blunders; but can we always have our "rights" in this world? Can all of us always have all the money that justly belongs to us? To carry it a little further, can everybody always have what they *think* is their "right"? Now, almost every thing has different aspects; and he who is wise will endeavor to see each subject from all its different points; and I would beg of you to carefully and thoughtfully,—nay, I would prefer the word *prayerfully*,—consider that I am in one sense a teacher. A great number of young men, if not older ones, are looking to me for an example; and, if my business continues to increase and prosper, they will be looking to me more and more. If I should sue friend Brooks, and collect the \$18.75 by law, if he is worth it, they would think that the proper way was to go to law for amounts

of that kind. If, on the other hand, I plead with him as well as I could for what was justly my due, and let the matter drop only when I had exhausted all my powers of persuasion, and let it drop only to avoid quarrels and contention, would they not be inclined to do the same way? You may urge that this question is a pretty clear one; but such questions are always clear to the suffering party. Each one of us is selfish, and we all think we are right, and the other party wrong. If I were sure my judgment was always right, and that of everybody else who differed with me wrong, I should not have so much hesitation about going to law. Shall I, in my position, advise our boys to have more to do with the law in settling difficulties, or less? On which side of this great question are we? or, if you choose, does humanity err oftener in insisting on justice, or in giving mercy?

Remember, I do not advocate giving up everything. If I did, I should not have a Humbug and Swindle department, or even the Black List which you see in this number. I recognize the evil of either of the two great extremes, and, feeling that the quarrels and troubles of this world, especially of the business world, are almost all caused by going to the extreme of insisting on *justice*. I am laboring hard the other way. I do not want our boys to waste \$50.00 in law for the sake of saving \$10.00 worth of property; and, what is still worse, hardening their heart to the influence of the Spirit that would lead them to eternal life. How many of you who read these words have been driven from your churches,—ay, and Bibles too,—because of some quarrel into which you have fallen with some neighbor? Who can enter into a lawsuit, and have his heart filled with love, at the same time, toward his fellow-men? Friend Brooks is not a swindler, nor does he deserve a place in the Black List, for he answers letters promptly and pleasantly, as you will see by turning back to his letters on p. 347 of the July No. I know his example is a bad one. His course is discouraging our young men from adopting the peace method of settling difficulties.

Friend Brooks, as your eyes rest on these words, I call upon you before God and before your fellow-men, who are in danger of being led astray by your example, to come forward and show yourself a man,—one who will not see another suffer because of a mistake entirely your own. That some of our skeptical friends may not again accuse me of interested motives, I will, if you choose, withdraw my claim, and you may give the money to the support of the nearest church or Sabbath-school. It may come hard, I know, and you may be illy able to bear it; but God will bless you in doing your duty and in making a sacrifice for the sake of his cause, for as such, I feel all just debts to be. Gladly would I pay it for you if I could; but there are cases when no one can stand in our stead. Let not, I pray you, my brother, this one act stand in the way of having men accept as their guide in business matters, the text, Christ's plea for the sake of peace:

If any man will sue thee at the law, and take away thy coat, let him have thy cloak also.—**MATT. v. 40.**

LENGTH OF TONGUES OF DIFFERENT KINDS OF BEES.

SOMETHING, TOO, ABOUT OUR RED-CLOVER QUEEN.

A FEW weeks ago, we received the following order for specimens of the different races of bees contained in our apiary:

I am desirous of having some specimens of different races of bees. Would you be so kind as to send me a few workers from each of your Cyprian, Holy-Land, and red-clover queens? The best way to send them is to put them in dilute alcohol, which may be put in small bottles, and these put in a stick of wood with holes bored in it. This would be less trouble than putting each in a separate cage, and is easily mailed. I would be much obliged for them, as I have an opportunity to have some prepared for the microscope. Each kind should be marked. This will give us an opportunity to compare the tongues of your red-clover bees with the Cyprians and others.

A. B. WEED.

Detroit, Mich., Aug. 20, 1880.

We sent a cage full of each kind, and today we receive this as the result:

Last month I sent specimens of the three different kinds of bees—Cyprian, Palestine, and home-bred Italian—which I obtained from you, to Dr. J. T. Main, of Jackson, this State, for his examination under the microscope. Dr. M., by the way, is a very skillful microscopist. The collection sent included also a common black bee. Dr. Main mounted a tongue of each kind of bee on a glass slide and measured it. They are now in the collection of the Griffith Microscopic Club of this city. In his remarks on the specimens, Dr. Main said that the most accurate way to obtain the comparative length of bees' tongues is to have them reach for honey through the meshes of wire cloth, as the tongue is a muscular organ, and therefore liable to extension or contraction at the time of being measured. The measurements of the specimens are:

Tongue of Cyprian bee	- - -	.252 inches.
" " Palestine	- - -	.256 "
" " Black	- - -	.266 "
" " Italian (home bred)	- - -	.290 "

Detroit, Mich., Oct. 14, 1880.

A. B. WEED.

I confess to being a little astonished, and begin to feel that I was a little hard on the bees of our favorite red-clover queen when I pronounced them thieves. Will some other microscopist try the result, and see if a second similar investigation verifies this? Many thanks to you, friend Weed, for the pains you have taken. If I am correct, we charged you for cages and postage on these bees, and here you have gone and redeemed the character of our red-clover queen. Her combs contained sealed natural stores again this fall, while we have been feeding nearly, if not all, of the others; but her stock has been divided so much, I presume we shall have to feed them some too.

FRIEND GOOD'S GOOD REPORT.

IF I should make an entire failure of bee-keeping in the future, I should not blame you, as friend Cole has done, but should still love and respect you for the good you have done me in the past. My hopes are not quite blasted as yet. In the fall of

1879 I packed 67 colonies of bees in chaff. All came out in good condition in the spring. Twenty of the weakest colonies I broke up into nuclei to raise queens from; the balance, I raised for comb honey. I have now at this date 134 colonies in good condition for winter, with plenty of honey to winter on.

I have taken about 2100 lbs. of honey, of which 1800 lbs. was comb and 300 lbs. extracted. I have sold 1821 lbs. at 17 and 18c per lb. I have 300 lbs. or more on hand yet.

I have raised and sold 247 Italian and Holy-Land queens, for which I received \$271.00, and I have in my own apiary some 60 young Holy-Land queens that I raised, which I am going to keep in an apiary by themselves next season. I made and sold 300 chaff hives this season, for which I got \$1005.00. I transferred over 100 colonies of bees in the spring; made and sold over 500 lbs. of fdn., and sold over \$300.00 worth of supplies purchased from you. All the hired help I had to do the above was \$69.00 worth; but, for all that, some people say I keep bees because I am too lazy to work. Do you think I had much time to play, after doing the above?

Perhaps you have wondered that I have never grieved about any of the four or five hundred dollars' worth of goods purchased of you this season. I will tell you why I have not. One reason is, I have not had time; another reason, because everything was satisfactory and as good as I expected it to be. Nappanee, Ind., Oct. 14, 1880.

I. R. GOOD.

Well, I declare, friend G., I did not know you had done so much in the bee business. You certainly were not lazy, let others say what they like, if you did all that with the help you have mentioned. Counting the queens you have sold, and the value of the increase, you have not been so very far behind friend Doolittle. While I think of it, he has not told us how much he got for his honey. Will all those who make reports, please tell what their honey sold for? I think it tends to develop a uniform price.

HOW THE DOCTOR AND HIS WIFE SUCCEEDED IN INTRODUCING THEIR FIRST QUEENS.

I WRITE to inform you that the five queens you mailed me on the 27th of Sept. were received on the evening of the 30th all in good condition. Now, the next thing was to introduce them. This was something I had never undertaken. I read your directions carefully, and the next morning took my smoker and went out and opened a hive to look for the old queen; but before I could find her the robbers came so thick and fast that I concluded it best to close the hive and wait till the bees quit flying. In the evening I took my wife with me to look for the queens. She is always willing to lend a helping hand when I have a difficult job on hand with the bees, and I must say she is a capital hand. We succeeded in finding the queens in two hives before dark. After removing them, we placed the cage containing the new queens on the frames, according to your directions, and closed the hive. We were two or three days in finding the five old queens, as we could not work at it but a short time morning and evening on account of the robbers. Sometimes we would have to look the frames over two or three times before we could find her. After leaving the queens caged on the frames 24 to 36 hours, I released them. I did not

keep the hive open to see how they received her, but closed it as soon as possible to keep out robbers, letting her take her chances. After four or five days I felt anxious to know how my queens got along in their new home, and how many had been sacrificed by my not following the directions for introducing. With some misgivings, I went in the evening about sundown to make an examination. The first hive I opened I very soon found the queen all right, and then went to the next hive. About the third frame that I took out, the first thing that attracted my attention was four nice large queen-cells capped over. Well, I thought to myself, I have "gone and done it now," for I remembered having read somewhere that one of the essentials to success in introducing queens is to remove all queen-cells before releasing her. I had about come to the conclusion that it would be useless to make any further search for a queen in this hive, when all at once I espied her, as bright as a dollar, walking around among those queen-cells as lordly as you please. I picked off the queen-cells, placed the frame back in the hive and closed it up, thinking that the theory of introducing queens where there are queen-cells was exploded. The next morning my wife and I went out to search for the other three queens. We were not long in finding two of them. I began to think, by this time, that we were capital hands at the business of introducing queens. We had but one more to find, and at it we went. We looked at every frame in the hive, but no queen could we see. On one frame were four or five queen-cells. We looked the frames over again, but with no better success than at first. By this time the robbers were becoming quite plenty, and we were obliged to close the hive, feeling very much "down in the mouth." Thinking that the queen was lost through my negligence in not removing the queen-cells before letting her loose, we concluded we would take one more look for her. In the evening we made the search; and, before we had looked the frames half over, we found her walking over the combs as independent as a queen on her throne. Then I exclaimed, "Hurrah for our side!" Thus you have my first experience in introducing queens.

DR. C. ABRAHAM.

Fayette, Wis., Oct. 13, 1880.

It seems you succeeded very well, my friends, without taking the second look, and I agree with you, that such will be the result in the majority of cases; but if we wish to be sure, it will hardly do to take the risks you did. Queens are sometimes balled, and not killed; but in a great many instances they are balled, and kept so until they die, and nothing but rearing for a longer period can save them. There is one point that seems to be misunderstood by many, and it is, that

QUEEN-CELLS ARE NOT ALWAYS AN EVIDENCE OF QUEENLESSNESS.

For instance: when we introduce a queen, she usually, sooner or later, destroys all queen-cells found in the hive when she is released; but she may not get around to it for three or four days, and sometimes for a week. In fact, it may be neglected until the young queen hatches; but in that case, she usually kills the young virgin queen, and no harm ensues. But this is not always the case, and it is, therefore, much better to tear down all queen-cells, as you did, when you

find the introduced queen has not done it. Now, you may accuse me of contradiction if you do not look into the matter carefully; but note this: when you look over a hive and can find no queen, and wish to be sure there is none, put in some unsealed brood, and see if they will start cells. If they do, your hive is queenless; if they do not, a queen is there,—or, at least, something they call a queen. If a queen is lost by any means, they also start queen-cells from the brood she left. The first of these rules I have, I believe, only twice seen to fail. The second fails oftener, but usually for some reason we can see if we look closely. The last fails so seldom that we may call it a fixed fact.

ANOTHER GRAND REPORT FROM WISCONSIN.

AS I am always so very glad to read reports from others, I suppose the rule, "As you would," etc., binds me to make report of my season's work. I commenced the season with 60 swarms in Simplicity hives (improved, as I think), and 50 swarms in old boxes, wintered in cellar. All were the native brown bees. I wintered more, but sold down to the number given. I have now sold 5556 one-pound sections, white honey, at 15c., and dark at 12c. Per pound, delivered on the cars at our station. I have on hand about 700 sections, partly filled, average about $\frac{1}{2}$ lb. each, and I have extracted the honey from 7 Simplicity hives, and have the combs put away for next season, and I have 19 Simplicities full of nice sealed honey. Shall I extract it, or shall I keep it for my young bees next season? These combs and honey I have obtained in doubling up for winter. I have now ready for the cellar, 129 Simplicity hives (improved) full of honey and full of bees, and 9 swarms in box hives, to be transferred next spring. I transferred 40 swarms last spring.

I am determined not to winter any swarm that has not made 30 lbs. of surplus, and but few that have made less than 42 lbs. Some of them have made me over 100 lbs. of comb honey.

One more fact I ought to notice: I have never bought a queen, but have for many years disposed of the queens that did not do well, selecting my best workers to winter. Last year my bees were all brown (or black). Now they are half yellow bees, and have as much yellow on them as have Judge Groty's, 2 miles from me, and he has no queens, but daughters of imported mothers. He has nearly as many as I have, as his drones are all full-blooded Italians, according to accepted theory, and from them I get my yellow bees, for there are no other Italians near us. My bees have done very much better than any I have heard of in this county. I want to start this inquiry: Will we not get better workers by Italianizing by the use of drones than to use queens? I believe it is a settled fact, that we carry the better qualities of stock more surely in the male than in the female. May it not beso with bees?

H. V. TRAIN.

Manston, Juneau Co., Wis., Oct. 15, 1880.

Why, this sounds like old times, friend T. If I am correct, Doolittle advises to extract the honey remaining in the sections, but we have generally put them on the hives at a time when they were not gathering, and let the bees uncup it and carry the honey below. Your idea of Italianizing by the drones is a rather novel one, but by no means an unusual one; for nearly all the common bees in the vicinity of all our large apiaries are fast getting Italianized in that way.

SIMPSON AND SPIDER PLANT.

WE are very much interested in your reports from your bee-farm, hoping and believing that such and similar experiments elsewhere will eventually give us some plants that will pay to raise for honey alone.

We presume you have noticed the large number of honey-plants offered for naming by different parties the past year, and there seems to be an increasing interest in this direction all over the country, going to show the great desire that such a discovery may be made.

I am experimenting, in a small way, for the above purpose, and will give results for this season. I sowed my figwort seed early in a cold frame; the plants came up without any trouble, and in abundance. I set them as soon as the ground was suitable for corn, two feet and one-half apart both ways, and cultivated likewise, same as corn. I did not expect it to blossom much the first season, but it grew finely, and almost every plant blossomed and yielded honey until frost came. I never saw such a sight before. There was about half an acre of it, and such a rushing and hurrying of bees! Why, they fairly fought, sometimes, to see which should have the first opportunity to stick its head into the little old-fashioned honey-hood, bonnet-like flower. One great thing with figwort is, it gives out nectar all day. One day I noticed a large number of humming-birds, I should say between one and two dozen, very busy on the figwort, like the bees, and having a great deal of fun and frolic in their peculiar way. The Spider plant I sowed was set and cultivated the same as figwort. The bees worked on it only a short time, morning and night. It seemed to yield the most nectar in the morning. I too, like you, have seen that nectar-drop sparkling in the morning sunlight. I have seen a bee alight and fill himself at one of these drops, and fall back, breathing hard, with evident regret, like a boy who has been sucking cider through a straw, and has got so full that he had to quit, but was sorry he couldn't hold more. Perhaps you know how it is yourself—I mean, as regards the boy. Well, it gave nectar about as long as the figwort; but there was a drought the last of July and first of August, and many of those hot, dry days, it gave little or no nectar for the bees, while figwort gave honey right along all the time. They were planted side by side. The balm-like aroma of the Spider plant was very pleasant to me, and I could detect its peculiar scent a great way off, and it made me feel sometimes as though I would like to roll in it. I have other plants, but think it not worth while to report at present. I should like to hear from others.

R. H. MELLE.

Amboy, Ill., Oct. 11, 1880.

A LAYING QUEEN LEAVING HER HIVE AND KILLING ANOTHER.

WILL you please take time to read a singular circumstance which happened in an apiary of 35 colonies? Since receiving that choice imported queen sent by you July 1st, we have raised 135 queens, 26 of which are in our yard; the rest are scattered north and south, east and west. But, to the point.

Eleven days ago we opened a strong stock of black bees, that we had traded four young queens for; found and removed the black queen; went to one of our nuclei, and caged a young queen that we knew

to be fertilized, but had not commenced laying. We placed her on the frames of the black stock, and the next day we released her. After remaining in the hive 8 days she commenced to lay, and so we thought all was well; but to-day, while fitting the swarm made by uniting this nuclei with three others, for winter, we found, to our surprise, that their queen, which was a very nice one, had just been killed, and was being dragged about on the combs. She was thus dragged, by having a very firm grasp on the wing, close to the body of the queen that had been introduced to the black stock, 3 rods distant, eleven days ago. After liberating the live queen with the point of my knife (for she was held by a grasp that must have meant "business" in the time of it), I clipped her wing, put her in a cage, and carried her back home; at sundown, to-night, I again released her among the black bees. They seemed much pleased with her, but I was not.

The hive (No. 15) containing the swarm made by uniting the four nuclei, was a dark hive, and stood some six feet distant from where this queen was raised—she being raised in a white hive.

I can call to mind many very interesting and, to me, singular circumstances connected with rearing 135 queens and introducing over 70; but this one was uppermost in mind to-night.

What is the best way to dispose of a fertile worker at this time of the year?

E. H. KNAPP.

Fabius, N. Y., Oct. 9, 1880.

At first glance, the case seems a little hard of explanation, friend K., but I think we can make it out after all. Let us see: Queens that have just begun to lay, taken from a hive in the same apiary, and carried to another, frequently go back to the home from which they made their wedding flight. This has been mentioned in our back Nos., and, I think, in the A B C. I think it comes about by their being dissatisfied with the new surroundings, and so they go out at the entrance and take wing. They then naturally remember the landmarks of their former home, and go in there. In your case, there are two difficulties to be explained. The first is, that she had commenced to lay, and we always suppose a laying queen to be a "fixtured," as it were. I should suppose she was not very well satisfied with her home or she would not have waited 8 days before laying. The second point is, how did she get into a hive, not the one from which she took her wedding flight? Now, unless you know to the contrary, I would suggest that the very day you opened the hive and found her laying, she took wing from the comb you were holding in your hand, for laying queens, when frightened, often do this, and, of course, she then went home to her original white hive. When you united the four nuclei, you of course supposed her in the black colony, but she was really in the nucleus, and you put the two queens together yourself, and they fought, and the result was as you have given it. If you know this can not be so, I would suggest that the queen went out while the black bees were playing, and found bees from her old home playing, and went home with them. But this latter looks quite improbable.—I would get rid of a fertile worker at this season by uniting the colony to one with a queen.

ITALIAN, vs. BLACK BEES.**BOTH SIDES OF THE QUESTION.**

I HAVE had a good opportunity of posting myself on the bees this summer and fall. Bees barely made honey enough to last them till about the middle of August. Black bees had hard work to do that, while the Italians made enough to swarm well. Not one swarm of black bees in ten in this part of the country has put out a swarm since Aug. 15th. Black bees have about filled their hives, while the Italians have filled their hives and given us from 25 to 75 lbs. of surplus honey to the hive. This is the experience of all the bee-men about here, and another year many of them will Italianize all their swarms.

My experience is this: In a season when honey is plenty, black bees do nearly as well as Italian; but when honey is scarce and hard to find, one Italian is worth three blacks.

W. H. SHEDD.

Watska, Iroquois Co., Ill., Oct. 6, 1889.

Your experience is about that of the masses, friend S.; but even at this late day we find, once in a great while, one who favors the black bees. We had one such visitor yesterday, Mr. E. M. Johnson, of Mentor, Lake Co., Ohio. Mr. J. has had both Italian and black bees, for at least 10 years, to my knowledge, and he has kept from one to two hundred stocks, the greater part of the time. He has lost as heavily as a hundred colonies in a single winter, so that he has had experience in the ups and downs of bee-culture in nearly all its phases. You know I have said, until recently, that those who decide in favor of the blacks, I could not but think stubborn or contrary. Mr. J. does not seem to be either. He admits the points in favor of the Italians, but claims the blacks to have others to more than offset these. For instance, the Italians, he admits, will gather stores, and sometimes make a surplus, at a time when the blacks would starve, during a season when there was but little honey to be had, but that, when a great flood of honey came, such as basswood often gives, the blacks would be ahead, especially when they had to build the comb, as is usually the case with comb honey. He also claims that the blacks will draw out fdn. the faster. The Italians, he says, will cram every particle of honey in the brood apartment, filling every nook and cranny, while the blacks would go in a body into the boxes, and build comb and store honey in a marketable shape.

Friend J. has tried all strains of Italians, and has had imported queens to breed from. He was one of the first to order Cyprian and Holy-Land queens of us, and so you can see that he is on the lookout for any improvement.

One objection he named to the Italians was, that they, in coming home to the hive, had to gyrate around the entrance a long while before entering, while the blacks would shoot right in, without any such "pre-amble." During windy days in the spring, the Italians would be lost all around the entrance, while the blacks would either stay in, or get back so quickly that none were lost. I am inclined to think he is partly right here. Under some circumstances, the Italians will dwindle down, and the colony will be lost during bad spring weather,

when the blacks, of exactly the same strength, would survive.

"But, friend J., the hybrids are certainly better than the blacks; are you not going to have some Italian blood in your apiary?"

"No Italian blood at all, unless I change my mind."

"But you will certainly admit, that some of your queens are a great deal better than others, even among your black bees?"

"Most certainly; some queens are twice as good as others."

"Then, in your new apiary of only black bees, you will rear your queens from your choicest stocks, will you not?"

"Well, there is a point. I have raised queens from my best and most prolific ones, and some of them were good, while others were perfect 'scalawags.' I have also raised queens, as an experiment, from my poorest stocks, and they have turned out just as well as any."

There is certainly a great point here, my friends. Some of my experiments in this direction have turned out in just this way. I fear we are often too hasty in expecting great improvements from selections in breeding. A customer once this summer, in purchasing a red-clover queen, remarked that he should expect me to warrant her to produce bees superior to the common Italians. I told him I could by no means think of doing such a thing. Now, I would by no means think of discouraging such attempts to improve stock by selection, but I would remind you that it is a work of toil and labor, and that we can not expect to accomplish great results, without carrying it through many generations, instead of one; and that, as soon as we stop, there will be a constant tendency to settle back, as it were, into about the original state of affairs. In regard to the position that Mr. Johnson takes, I would remind those who are inclined to take up with it, that, while he has, without doubt, come to his conclusions through practical work, there are a hundred or more who have decided directly to the contrary, in the same way, where there is one that will agree with him. Do you ask if he has been successful? I believe moderately so; but so far he has had at least half of his colonies Italians and hybrids all the time.

TWO QUEENS IN A HIVE.

AND HOW SOME OF THE "QUEEN TROUBLES" COME ABOUT.

MY last three queens have just arrived. If you will always send me such nice dollar queens as the last six I got of you, I will never call on you for a tested one. The first lot I received are filling every cell the bees will allow them, with brood.

I am sorry indeed to tell you my imported queen is dead. I am almost ashamed to tell you what a careless trick I did. I am 55 years old, and have worked with bees a good part of my life, and for several years I have done nothing else but handle them, and was well aware that about four times as many hives have more than one queen as most bee-men think. The hive in which I put my imported queen proved to be one of that kind. I first took out

the blacks, as I always do before giving them another queen. When I found her, she was such a nice large one that I looked no further, but set the cage in the hive. In 24 hours I released her on a comb, and the bees received her all right. In an hour and a half I looked again, and she was there undisturbed. In 24 hours I looked again. She was traveling round over the comb, but seemed to be very stupid. In 48 hours I took my last look at her. Now, what bothers me is this: Why did the bees and the other queen, which was a nice large black one, let her stay there three days and then kill her? I could not find her, dead or alive.

A. W. DALZELL.

Enfield, Ill., Oct. 8, 1880.

Bee Entomology.

Or Enemies of Bees Among Insect Tribes.

A NEW ENEMY; PRAIRIE HORSE.

I FIND a bee enemy here that I have not seen described in GLEANINGS. It is a kind of grasshopper arrangement, holds its head away up, and lies around my hives all the time, catching bees with its fore leg, and bringing its *hand* (?) to its mouth coolly, eating off the top of the poor bee's head, and afterward stowing away the remainder in its capacious stomach. It is called a "prairie horse" here, and it will fight anyone or anything, even a stick. I believe I have killed a hundred near my hives this summer. It has a long, slender waist, and one day I found one with a bee in its hand (?), and I picked it up with my fingers, by the waist, and the impudent thing did not care a bit, but continued with its dinner without feeling the least disturbed. Well, it will never eat any more of my bees.

Eureka, Kan., Sept. 27, 1880.

WM. DYKE.

Will you please tell me what kind of an insect this is. It preys on bees, for I have caught it in my hive killing them.

GEORGE A. SCHAFER.

New Orleans, La., June 15, 1880.

The insect sent by Geo. A. Schafer, of New Orleans, is a true bug, of the same family as *Phymata erosa* (see *Manual*, Vol. 4 and 5, p. 293). It is too much crushed to give the precise species. Insects should be boxed before mailing. Wrap them in cotton batting, and place in a strong box.

Lansing, Mich., Sept. 21, 1880.

A. J. COOK.

A large insect, very similar in general appearance to the bumble-bee, infests my apiary in considerable numbers, and do a great deal of damage. They capture *laden* bees on the wing, and, in extracting the honey, kill them. They can empty one in less than five minutes. They certainly can reduce an apiary in a short time. I have noticed them only the last few days. I know of no riddance but killing them one by one. Is it what you call the bee-hawk?

GEO. H. WADDELL, M.D.

Coronaco, Abbeville Co., S. C., July 20, 1880.

I should think, from your description, friend W., that the insect belongs rather to the mallophora family. The bee-hawks are a sort of dragon-fly. I know I have been blundering badly on insects, and I have bothered Prof. Cook so much I am about ashamed to ask him the same questions over again any more. Just now I am looking for a boy—or girl (?)—having a natural taste for

entomology, and then I wish to have them fix a neat cabinet for these insect enemies, and have them so arranged that we can at once identify the chaps when they are sent in over and over again, as they are of late. A few weeks ago I was in a field of red clover, watching for Italians, when a very large bee, so it looked, caught up an Italian and shot off like lightning. I managed to keep my eye on him long enough to see where he alighted, and when I came up he was resting on a clover-stalk, sucking the nectar from his victim. I had just time to note that he was very much like the *asilus*, if not one of them, when he "lit out" again. From this, it would seem we have the *asilus* here as well as in Missouri.

DOOLITTLE'S REPORT FOR 1880.

THE season of 1880 opened a little earlier than usual, bees getting pollen quite freely as early as April 17th, while on May 12th the willows furnished a little honey, sufficient to start brood-rearing nicely, so the bees were in a prosperous condition to take advantage of apple-blossoms. May 22d found our bees rushing out of their hives bright and early to get the nectar which was being secreted in the apple-bloom quite plentifully. The combs in our hives soon began to show the result by the lengthened appearance of the cells at the tops of the frames; lengthened with new white wax, which always does the eyes of an apiarist good to behold. After about four days, however, a rain set in, terminating with cold, which put a stop to operations with the bees till the bloom had gone. Our bees, however, had collected, on an average, about 10 lbs. to the stock, so we were perfectly satisfied with the result, although we should have been more pleased if nothing had occurred to hinder their gathering honey until apple-blossoms had fallen off. When our bees were all arranged for the season, we found we had 70 to begin the season with, all of which were in fine condition, June 10th, to take advantage of a yield from clover, if such a yield could have existed. But, alas! our open winter had made havoc with the clover, the most of which was found standing on its head, with roots pointing toward the sky with the approach of spring. Still, along the roadside and in old pastures of long standing, there was considerable left that had withstood the constant determination of Jack Frost to heave it out of the ground, and upon this we placed our hopes of a *living*, at least for our bees, and perhaps a small surplus. But we were destined to disappointment; for, June 18th found us feeding our bees to keep them from starving. On June 22d the blossoms of the whitewood secreted enough honey, so we ceased to feed, when some of our most enterprising Italians began to swarm. Basswood opened 10 days earlier than usual, and 7 days earlier than it ever opened here before, so that July first found the bees going for the woods in countless numbers, although the yield at no time was great. Our best swarm for extracted honey gave us a yield of only 10 lbs. a day, against 23 per day in 1877. On July 13th came the close of basswood, after which our bees hardly obtained a living from the few scattering plants, such as catnip, motherwort, etc., which blossomed in waste places and along the fences. Buckwheat opened Aug. 12th, and we hoped for a yield from that source, as we had not secured a pound of surplus from buckwheat

since 1877; and surely it ought to yield honey one year in three at least. Disappointment was again our lot, for although there were 50 acres within the range of our bees' flight, still they got scarcely more than enough to supply the demands of the brood. Thus one season for honey closed, with no surplus except from basswood. As a result, we again have to report a poor season, yet not a discouraging one by any means. We have taken, in comb honey, 3532 lbs., and extracted 812, or 4344 lbs. in all, which gives us an average of a little over 62 lbs. for each stock in the spring. Our bees have increased from 70 to 112 stocks, in fair condition for winter. Last year we gave, as an average for the past 7 years, 90 lbs. per stock, and were in hopes, by having a good year this season, we might bring it up to an even 100 for an 8 years' average; but we have gone the wrong way, and so have to chronicle, as our average yield per stock for the past 8 years, 86 $\frac{1}{4}$ lbs., nine-tenths of which has been box honey. Now, there are three requisites toward securing a large yield of honey in a good season; a fair yield in a medium to a poor season, and a little in a very poor season. First, and most important, is the man, or apiarist. The man who knows just when and how to do a thing, so that everything is done at the right time, and in the right place, and also knowing how to use, and having all of the modern appliances for successful honey raising, will rarely have cause to complain of his poor success. Second: A race of industrious bees, whose queen shall keep the combs well occupied with brood at all times, till the honey harvest closes for the season. To this end, one should breed only from queens that give the best results as honey-gatherers. Third: A hive that is adapted to the natural instincts of the bee, and also easy of operation for the bee-keeper. For box honey, the boxes should come close to the brood, so that no space of heavy wood or sealed stores intervene between the surplus arrangement and the brood. For extracted honey, a hive should contain at least 3500 cubic inches of space, all in one apartment. The idea is simply this: If our bees and ourselves are always in readiness for a yield of honey, and there are but five days' yield in the whole season, we can secure something; but if not in readiness, the five days will pass and we shall get nothing.

G. M. DOOLITTLE.

Borodino, N. Y., Oct., 1880.

Many thanks, friend D. On page 386, Oct. No., you say you will go into winter with 100 colonies, and now you say, when you opened up for the spring you had 70. Many of our A B C class would, I am sure, like to know just how you disposed of the 30. Did you sell any? How many were lost in winter, and why were they lost? or did you winter all, and make the 70 strong by doubling up? We are anxious about this, because we wish to know if it really pays to double up in the spring, even when we are not obliged to, to make all of them come through safely. We are right in thinking you will have no objection to enlightening us on these points, are we not?

FROM AN IOWA A B C BOY.

I SEE some slim reports from Iowa. My success and experience for the last year has been thus:

Put 53 colonies in the cellar, all in good condition; took out 53 colonies in good condition. One

afterward proved to be queenless; had 18 in box hives; sold two box hives in spring; transferred four; added queenless colony with one transferred; commenced summer campaign with 50; had about 100 swarms; put back and doubled, so that I run to 90, or 40 increase. I bought a tested queen of J. C. & H. P. Sayles; introduced her the 11th day of June; tried all summer to get eggs from her, but didn't succeed until the first of August. A few days after the August No. came to hand, I put July and August GLEANINGS together; i. e., how to raise queens. The first colony that I put to work (I followed the directions to the letter), raised or started me 37 queen-cells. I sorted them at five days, and hatched 25 of them. I started two other colonies a few days later; they produced me 14 cells. I hatched 39 queens; succeeded in getting 23 fertilized. I introduced nearly all of them by placing the queen with her little swarm of bees in the middle of a queenless colony. With one they killed off her attendants, but saved her.

I introduced one unfertilized queen to a colony that had been made up of odds and ends, and for several days queenless. They accepted her "without a word."

From 41 swarms run to extra-early honey, I have taken 3700 lbs.; from 28 swarms, and all new and strong, I got 1000 lbs. comb honey in section boxes.

I raised my queens by the use of my extracting colonies. Of course, I had to divide up several to make 37 or 39 nuclei.

I tried to keep from swarming by cutting out queen-cells; failure, failure.

Four swarms alighted together one day. I made three swarms out of them; saw one queen as I placed them and kept watch of the other two. One had no queen, and was leaving hive. I hurried and got a card with sealed queen, and opened the hive and gave 'em a puff or two of smoke in the mouth of the hive in order to turn the stampede. I then put in the card, shut up hive, and in two minutes all was right. They stayed and did well—made about 20 lbs. comb honey surplus. I was taking out black queens one day. One I didn't find. Next day, about noon, I found her with a double handful of bees under the back part of the hive. She had ran out and was afraid of being captured if she went back.

BLACKS OR ITALIANS; WHICH ROB THE WORSE?

You say your boys say they wish all black bees were out of your apiary; Italians don't rob; blacks do. Have Sayles send you a queen, and if they can't outrob your blacks, why, then they are not like mine. I have 4 queens from them, and 85 to 90 colonies of blacks. The Italians monopolize the whole robbing "biz." They are a success (!) I'll have some hybrids next year for them to "buck" against. I use the "Humbug Golden Bee-Hive." I got 1300 lbs. of extracted basswood honey; 1500 lbs. of extracted buckwheat. The rest is white clover and mustard. Haven't "writ" this for GLEANINGS. I only wanted to put in my say.

B. F. LITTLE.

Brush Creek, Iowa, Oct. 6, 1880.

Pretty well done, friend L. Perhaps you have got hold of a strain of Italians especially given to robbing. Try it during a season when blacks are robbing and starving, and Italians are all off at work in the fields, and I think you too will decide, that if all your bees were full-blooded Italians, you would have peace and quietness instead of being so constantly annoyed. I did not mean to pronounce the Golden hive a humbug necessarily, but rather the man who tried to make out he had any right to forbid your making such a movable-comb hive if you wanted to, or that he had invented any essential thing about it.

ARE THERE ANY SEASONS THAT WILL NOT AFFORD A PROFITABLE CROP OF HONEY?

ARE BLASTED HOPES THE FAULT OF THE SEASON, OR THE BEE-KEEPER?

IN the August No., p. 358, you say that, in the poorest seasons, you have never failed to get a fair crop of honey, or something to that effect, and rather imply that the failures are the fault of the bee-keepers, and not the seasons. I know, of course, it does us no good to complain of the bad seasons; but, at the same time, shall we not call things by their right names? If the season is such that our bees do not swarm, nor lay up surplus honey, why not say so? Now, I will state my management for the season through and would like to know if you or anyone else could have done better. I had 29 stocks, spring count. Ten of them were not reduced by dividing at all last year. All were well surrounded with chaff all winter, and, until in May, all had trays of Root candy over their frames from early in March until about the first of June. Three were divided in early spring, and have been kept so the entire season for queen-raising. Two were very weak, and I only expected them to build up into good stocks, which they have done. The remaining 24 were in fair, but none of them in extra strong, condition, and were at first run for surplus honey. The brood was spread, and empty combs given as fast as my judgment dictated; and, as soon as I thought best, I put on the boxes. A few of the best had the upper-story Simplicity with the 56 sections, starters and separators. A few more had the double Simplicity with empty combs for the extractor, while the rest, about 15, had the 23-lb. crate with sections. Two as good stocks as I had, had each one brood frame with 8 sections below; but neither one of them put any honey in those sections, worth taking out, yet they have been in there all the season. Not one stock in the apiary nearly filled its capacity. Of the crated ones, the best one gave about 20 lbs. Fully half of them gave nothing. One took all the wax of the fdn. starters out, and, I presume, used it below for brood cappings. Of the double-story Simplicities, each stored a little, but I did not get a nice, filled section in the whole apiary. I thought they were filling up too much in the brood-chambers in the latter part of June, and I extracted about 190 lbs.; and about the last of July I took about 150 lbs. of poorly filled section honey, which makes the full season's crop.

I got no natural swarms, and made but 3 artificial ones before Aug. 1st, when I began to divide, and have halved each stock but one. Aug. 17th I had one natural swarm, and that to this day is a mystery, as I had divided it about a week before. It had a young hatched queen, but I can never tell where she came from, as I could find no remains of a cell, but found some cells unhatched. I shall go into winter-quarters with about 60 stocks, not over large, but mostly young bees, as I have nearly all young queens, and they are laying finely yet.

THE SEASON.

The early part of the season was pretty dry—at no time a severe drouth, but too dry for vegetation to do well; since then it has been tolerably wet, but nothing seemed to produce much honey. White clover was scarcely anything, and the bees did not seem to get much from what there was. A sidehill, in sight of me, in '77 and '78, looked as if it had two

inches of snow on it; but last season and this it did not show the least bit of white. Through July and half of August there was scarcely any honey-bloom; but buckwheat has been fair, and now that is gone, and nothing more to come this fall.

A. A. FRADENBURG.

P. S.—I shall have to feed fully one-half of my bees to winter through.

Port Washington, O., 1880.

Friend F., although it may be a little difficult to tell just where you erred, and, although it may seem, as you state it, that you did all that could have been done, do you not think some older and more experienced hand might have secured a fair crop, right in your locality? Suppose, for instance, you had made no attempt at increase, but, on the other hand, had doubled up your stocks until you had reduced the 29 to 15 or even 12 powerful colonies, and had used all the latest appliances for getting honey and keeping down increase, even with such a season as we have had, would it not have been possible for you to have made 1000 lbs. of comb honey that would have brought, scarce as it now is, from \$200 to \$250? If I am correct, this is the plan upon which Doolittle works for comb honey, and L. C. Root for extracted honey. The above is the plan adopted where no increase is desired. If increase is wanted, you may be just as well off as you are; but the showing of the season's work is hardly as plain a success, in the eyes of the world. Besides, as you have increased and divided, there is some danger of losses during the coming winter.

POISONING BEES.

HAVE BEE-KEEPERS ANY REDRESS?

IT becomes an unpleasant duty for me to write you, from the fact that the purport of this letter is to tell the troubles of another. Mr. Peter Klase, a neighbor living about a mile from me, in the corporation of Huron, has had his bees poisoned. The particulars are as follows: Mr. Krock, a fellow-townsmen, has a vineyard. He claimed that Klase's bees were spoiling his grapes, and told Klase to keep them at home. Klase told him it was an impossibility, and he says that he offered to pay the damages. But no; he said he would not have the bees there under any consideration. A few days later, Klase noticed that his bees were acting queerly, and many were dead. Mistrusting that something was wrong, he repaired to the vineyard, where he found the cause of the bee-slaughter. It was boards placed around the vineyard, with Paris green or London purple mixed with sweetened water. It killed many before they could get away. It seems that Krock was expecting Klase, and was waiting for him, and ordered him off the place, and raised a club to strike him. Klase then drew a revolver and threatened to shoot him if he struck him. This led to a lawsuit. Klase sued him for damages, and was defeated. He is now intending to carry it to a higher court, as it was before a justice the first time. Mr. Klase is one of your patrons, who has accumulated about 70 swarms of Italian bees. They have been doing well under his management, and are the fruit of many years of labor and study. I visited him the other evening at his home. His topic for conversation was, as usual, bees. Said

he, "My bees are all spoiled. There is not a handful in a hive."

Mr. Root, my object in writing to you is to ascertain whether there is any law for the protection of bees. If so, let me know immediately. It is claimed around here that there is no law for the protection of bees. That being the case, we, the bee-keepers of this section, might as well resort to brimstone immediately, and keep the poison out of the honey. We have already done so, for our business is at the disposal of our neighbors, who forget to "let live," but never forget to live.

Mr. Root, since I began this letter I have been out to look over my bees, and found that they also have been to taste of the poisoned sweets. Four out of 13 have found it, and a few sunny hours may lay the rest in piles, dead, before their hives. Bee-keepers, is it not enough that our bark of industry be tossed on nature's troubled sea? It seems not; for art, in the hands of men, has the power to lay its hand on the frail craft and sink it for ever.

It would hardly be fair to place this under the head of Blasted Hopes, and yet you see how we are situated. I can stand my loss, even if I lose them all, as I probably shall, if the weather does not prevent them from flying. But as for Klasen, I leave you to imagine for yourselves. He has quite a family, and has depended on his bees for a support. They are destroyed, and he has 1000 lbs. of honey that the people won't buy, for fear there is poison in it.

My friends deny me the privilege of advising you, who are older in the business; and yet, would it not be well for us, a class having the same interests, to support this man in his attempt to crush this evil in its infancy, for is it not an inroad that may lead to your homes and apiaries? Advice and information will be gratefully received from you or any of your correspondents.

GEO. ROSEKELLY.

Huron, Erie Co., O., Sept. 29, 1880.

It is possible, friend R., that the bees were harming the grapes, and it may be, too, that the owner of the grapes could have obliged friend Klasen to move his bees away, by taking proper measures; but I am sure he could by no manner of means make it appear that he had any right, legally or morally, to poison the bees. As bees are now taxable property, I should suppose the penalty for killing them, even if they are on your neighbor's premises, would be the same as for killing a horse or cow. Another point should be taken into consideration: The bees that came for the grapes were not the only ones killed, but the sweetened water attracted great numbers that would not have come otherwise, and the poison carried into the hives killed greater numbers still. I think, friend R., you are the one to go and remonstrate with Mr. Krock. He probably got somewhat irritated by thinking he was wronged—much more than was really the case, and a friendly talk will perhaps be the means of having the whole matter settled amicably. Our attorney has furnished us the following copy of the law, which it may be well to read to him, to let him see the enormity of the offense he has been committing.

There is no special law reaching the case, but your friend's remedy will come under the following section of the Revised Statutes, to wit:

Sec. 6863. Whoever maliciously destroys or injures any property not his own, shall, if the value of the thing destroyed, or the injury done, is one hundred dollars or more, be imprisoned in the penitentiary not more than seven years nor less than one year; or if the value is less than that sum, be fined not more than five hundred dollars, or imprisoned not more than thirty days, or both.

We think the above will reach the case of Peter Klasen.

WOODWARD & ANDREW.

Medina, O., Sept., 1880.

HOW FRIEND ROOT WENT DOWN, AND CAME UP AGAIN.

GOOD FOR YORK STATE, AND GOOD FOR BUCKWHEAT.

ONE year ago last spring I found myself without bees, though I attempted to winter 60 swarms.

I did not write then, because I knew you would put me in Blasted Hopes, and I was not ready to go there; for I had some hopes left that were not blasted. I found 8 swarms then, which I bought at \$4.00 per swarm, and transferred from box to Simplicity hives; and, by using combs on hand, increased to 30, and had about 400 lbs. surplus comb honey, which more than paid the \$32.00 for the bees. One swarm died last winter, leaving me 29 swarms to begin business with this spring.

Now for this season's work. I have extracted 5 bbls., of 360 lbs. each, of white-clover and basswood honey, and 5 bbls. of buckwheat and fall honey, making 3600 lbs. of extracted honey, and I have something over 400 lbs. of comb honey. My experience with comb honey is not satisfactory, for the bees would swarm and leave it every time, this year; and, though I moved some of it to the new swarms, giving them a full set of combs in the lower story, I got very little finished white comb.

My expense out, this year, is \$16.00 for barrels, and \$3.00 for queens. Product from the 29 swarms, 4000 lbs. of honey, and 28 natural swarms, all strong.

I extracted 1 bbl. of buckwheat honey from 5 hives in one day.

WM. H. ROOT.

Port Byron, N. Y., Oct. 6, 1880.

Thanks, friend R., but we would very much like to know how it was that you lost 60 colonies in one season. Your yield from buckwheat is perhaps the largest one we have ever had reported. It seems to me you must surely have been able to see and taste the honey in the flowers, when it came in such a flood. Can anybody tell us about this? Do you know where you were wrong when you lost so badly, and why it was you succeeded so well the winter after? Your report tells us another thing, too,—that there were localities where honey came in great quantities, even this year; nearly 140 lbs. to the colony, besides almost doubling the number of colonies.

Ladies' Department.

MOTH-WORMS, ETC.

I HAVE 9 stands of bees. I had 4 in the spring, and increased them to 9. This year has been a very poor one for bees. I think I shall have to feed them some to make sure that they will have plenty to winter on. I find there is more to learn than just to divide them. One man here had one stand in the spring, divided them into three, lost two, and will lose that one if he does not look well

after it. The worms were very bad here this summer. I suppose you will tell us to drive them out with Italians. My bees are large, yellow, three-banded bees. The queens are large, dark-colored, with three bands. The bands are not as plain on queens as on the worker bees. The drones are black. I never handled bees or paid much attention to them until one year ago last June, when we bought ours. Now, friend Root, I would like to ask you how I can keep the moths out of our hives. If we (that is, my husband, for he always helps me) do not go through them all every two or three days, the combs will be full of worms, eating and uncapping the brood. My bees are on the L. frames.

Mrs. E. J. KILLAM.

Dunlap, Morris Co., Kan., Sept. 14, 1880.

I should think, my friend, that your combs had been exposed to the moth at some time before the Italians had them, and that the eggs are just now hatching out. Keep picking them out as you have done, and, with the help of the Italians, they will soon cease troubling you. I have had similar experiences for a little while, but it can not last long if you follow it up faithfully.

A "VISIT" FROM FRIEND CATHEY OF ARKANSAS.

I SEND you my honey report to-day, with some of my experience with the new honey-plants; and, as there has been something said by several writers in regard to the cotton as a honey-producing plant, I thought I would send you a sample, thinking it would be new to many of your shop hands, if not to yourself.

HONEY FROM THE COTTON PLANT.

I send you a limb with 3 open bolls on it. They are a little dirty, too, from the effects of recent rains. You will see, also, that the last two bolls open are a little hard in the locks; that is also caused by too much rain. It should all open light and puffy, like the first one. The last two will make very good cotton, but they are not well matured. Had I sent earlier, I could have sent a sample of all, on one limb, which would be, an open boll, then grown boll just ready to open, $\frac{3}{4}$ grown, half grown, quarter grown, bloom, and squares.

The bloom in early summer comes out and opens 2 or 3 hours after sunrise. It is then pure white, with 5 petals, a calyx of 5 leaves, and a bracelet of 3 leaves. In early morn, the bees work on the outside of the bracelets, as though they were making fair wages. After the bloom opens, they enter it and suck on the inside of the corolla. They never touch the stamens, except with their backs; but as there is just room enough for them to enter between the corolla and stamens, they come out entirely covered with pollen, and you might take them for a new breed of bees. They enter the hive in that way, but come out clean.

I am sure that they gather some honey from the cotton, but it is a poor honey-plant. Our friend who writes that his bees are gathering large quantities of honey from the cotton plant, spoke too soon. He had better reconsider and look again. As a general thing, the bees in this country have 5, 10, or 15 acres of good cotton to the hive. Would not the whole South be flooded with honey if it yielded such

amounts? Two years ago my bees gathered enough from it so that I thought I could taste the flavor, which I thought cotton would be apt to give it; viz., a faint sweet. My bees have had free access this year to at least 20 acres to the hive, without going much more than a mile.

But to return to the cotton bloom. In early summer it is fully open by 8 o'clock A.M., and by 5 P.M., it shows a tinge of red; by night, it is all red; and the next morning it is closed, and by the next evening it drops off. The 3 little bracelets you see on the limb beyond the bloom, is what we call the square.

The boll-worm miller lays the egg in the tender bud; as soon as it hatches it punctures the square, the bracelets expand, and thereby warns you of the damage done. As the worm grows it follows the limb, puncturing each boll, until it destroys them all, and we find him about the size of a common cut-worm—a fat, hearty epicure, with about half his length in a grown boll.

ARKANSAS AS A HONEY STATE.

This is a poor honey country at least. We have no linden, tulip, sourwood, white clover, aster, or goldenrod. If we could average, one year with another, 25 lbs. of honey to the hive, we would think it good. We generally have honey-dew, if it is dry in May. But this year we had a dry May—the only dry time we've had, and not one drop of honey-dew. We have the apple and peach bloom, the whortleberry, the elbow bush, or button willow, which is good; but the best honey-plant we have is the sumac. But our bees generally fill up late in the fall on—we know not what.

SPIDER PLANTS IN ARKANSAS.

I got about 15 of the spider plants to grow, but it is growing wild all around me, and for the sake of euphony we call it "polecat weed." Sometimes the chickens eat so much of the seed that their flesh tastes of it. But there is no doubt but that it produces the nectar, though I have my doubts about the flavor of the honey if you had enough of it. But another season will test this.

Did the all-wise Creator make a mistake when he made this honey-plant to produce its nectar at night for all shapes, sizes, and colors of moths to consume while the bees were in their hives? I think the reason some blooms don't have any nectar in the morning is, that they exude so much that it drops out.

SIMPSON PLANTS IN ARKANSAS.

I succeeded in getting about 6 or 8 Simpson plants to grow. The finest bloom was the 8th of August. It was level full of honey. I waited one month and watched the humming-birds carry off the sweet, and not a bee had ever visited it.

One day I had extracted some honey, and had my "bulldozing" hybrids excited, and I mixed a little honey and water, and, with a spoon, filled several flowers and sprinkled the leaves. They were soon there. Since then I have never looked there, when a bee could be out, but they were swarming around it. The humming-birds have quit, for they know it's no use trying.

This has been about as poor a honey season as I have ever seen. Owing to several circumstances, my apiary was reduced to 4 hives last spring, and my bulldozing hybrids robbing my blacks was one cause. They were one Italian and 3 hybrids. I knew there was little honey to gather, and I tried to prevent their swarming, but for all I could do

against it they have increased to 9 strong colonies, and the largest swarm I ever saw went to the woods and I got some honey besides—perhaps 60 lbs.—while my neighbors have had no increase nor honey.

ITALIANS VS. BLACKS.

As for the comparative merits of the Italians and blacks, they will not bear a comparison, and I do believe, with my little experience, that for real "vim," "get up," swarming, and gathering honey, the hybrids are the best.

HATCHING QUEENS FROM DRONE EGGS.

I wish to say to friend B. F. Pratt, p. 477, October GLEANINGS, that I know he is mistaken about rearing a good queen from drone brood. The thing is contrary to nature, reason, and—my experience. The latter, however, would not amount to much, although I have tried it in 3 different hives. But this is my principal reason: All worker bees have imperfect female organs. So says the throng. The work the bees do to make a queen is to so manage to feed the larvæ as to perfectly develop the organs; then she becomes capable of propagating the species. But nothing less than the power of God can change the male organs to female.

The species of figwort which friend Demaree speaks of grows here abundantly, but I have never seen bees on them.

PROPOLIS, AND WHERE IT COMES FROM.

Friend S. H. Lane thinks he has discovered where the propolis comes from. It comes from the sweet gum in this country. The "wee ones" get a wad of chewing wax every time I open a hive. I have watched them taking it off. It is so sticky and tough that it seems difficult to get off; yet they get it and pack it in their baskets.

STINGS AND RHEUMATISM.

I have tried the bee-sting for rheumatism, sufficiently to know that it is the poorest patent medicine that I ever saw.

Yours for 1881, B. F. CARTHY.

Cabot, Lonoke Co., Ark., Oct. 8, 1880.

The "Growler."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

THE latter part of April last, my wife ordered some bee fixtures of you, which she received the first week in June. While she was waiting for them she lost 3 swarms of bees, Italians, for the need of hives. You must have known, when you placed the order on your books, that you could not send in time for spring wants. To be on the safe side for next season, I persuaded her to order her next year's wants in August, and so be sure of them when needed. She accordingly sent you an order the last week in August. The goods were received Sept. 16th. When your Sept. GLEANINGS came to us, we saw your offer to allow 10 per cent discount for goods ordered during the month of September. I told her it would apply to her order, as a matter of course, and she accordingly wrote you, and I inclose your reply.

She is considerably out by your short-comings, and I insist that she has good reasons for claiming the discount. She has great faith in you—I should have more; but my experience, made up of 27 years in active and successful business, is, that those who mix up their religious matters with their business—bear watching.—The biggest loss I ever sustained (\$1700 cash lent) was by a man of this stripe. I should think you would want to make amends for the loss caused. I am sure I would. I do not ask it as a favor, but claim it as a right. Think it over, and let me know your conclusions. E. B. H.

Oct. 4, 1880.

My friends, I should not have given the above, were it not for the paragraph that refers to the faults of those who profess to be Christians, and especially to those who have the courage to carry their religion into business; who are not afraid to say before men, that they are trying to follow their Savior. It is a sad thing for anybody to take a fellow-being's money without rendering an equivalent; but, my friends, it is a far sadder thing for one to do it who professes to try to do right in the sight of God. I fear these things do exist, at least to some extent, or we should not so often hear of it; and it is that *we* may do better that I have brought this matter up to-day. If everyone would do a little better himself, we would have a reformed world. If it seems to us that we are doing about right already, let us, in view of the selfishness that we are forced to admit exists in us all, try to do a little more than "about right." If we each decide to do this, we shall, in all likelihood, even then, do only about what is just.

When I made the offer of 10 per cent off, in our Sept. No., the clerks asked at once if they should allow the same discount on orders received in Aug. I replied that most of the August orders were for the fall crop, and would not have to be held over for another season; and, as there must be some definite time for the discount to take effect, it would probably be as well to have it commence the first day of the month. The above order was received in August and filled in September, which, perhaps, would alter the case somewhat. To be on the safe side, we will allow the discount. It will be remembered, that I asked our friends who suffered from our being behind hand in the spring, on page 248, June No., to send in their bills for damages. So few sent in such bills, that I not only felt deeply grateful to those of you who have suffered, but gained a new faith in my fellow-men, and once more decided that this world is not a world of "selfish and grasping" people. You know, my friends, something of the trials and struggles I have passed through in trying to get selfishness out of my own heart. Well, the result is, that I have not only found that Christian people are trying to be fair and honest, but that those who are skeptical are also, as a rule, trying to do the same, where misunderstandings and differences of opinion do not conflict. Now, in regard to the three swarms of bees that were lost. I think I am willing, friend H., to pay you for the loss, whatever amount you may think right under the circumstances.

LONGEVITY OF BEES THE MOST DESIRABLE OF ALL TRAITS.

EDITOR GLEANINGS:—I have carefully noticed the prosperity of different swarms of bees for a few years past, and invariably traced this prosperity to the hardihood or longevity of the workers. The most of our best writers tell us to breed from tested queens that are most prolific, in order to insure, at all times, swarms that are the strongest. Who of us has not said, in May and June, while looking over our bees, that such and such swarms had *very* prolific queens, as they had their hives full of brood, and that we expected the best returns from such stocks; but, as the season advanced, some stock that was weaker in the spring months, and whose queen had never attracted our attention by her prolificness, now had much the largest working force, and were the very stocks that gave us the best returns through the season? It seems strange that we have so long mistaken the *true cause* of this effect. Those workers could point with pride (as many "humans" do) to the promise of a long life and strong constitution handed down to them by their progenitors.

NOTICEABLE FEATURES OF THESE LONG-LIVERS.

1. Colony always strong, and ready to take advantage of any honey yield.
2. Very many ragged-winged old veterans among the working force throughout the entire season.
3. They bear their loads of honey right up to their entrances with less effort than weaker bees do, and a close observer can notice that, going and coming, they fly more steadily and straight, and a trifle swifter, than other bees.

I have tested this thing to my entire satisfaction the past season by depriving stocks of their queens. I suppose some who have witnessed the fearful mortality of *some* queenless stocks through the working season will think I must be mistaken; but I am not. I divided one of these long-lived stocks June 26th, leaving about one-half of the bees and 7 Gallup frames of brood. They filled the other 5 frames, and gave me 70 lbs. of basswood honey. Although they were kept queenless through all the season, they filled up their hives on buckwheat, with ample stores for winter. They were given a few eggs and larvæ on two occasions, to keep up their industry; and when I gave them a fertile queen, Sept. 5th, they were a very fair swarm. Right here I wish to say, that all heavy yields of honey are very fatal to the workers. I do not think that *healthy* bees will dwindle as fast in early spring as they wear out in gathering honey during a heavy yield. But to return to my text. A strong colony of blacks, made queenless Aug. 1, with plenty of brood, came near perishing by Sept. 15th; also two swarms of Italians, with very prolific queens, dwindled so during the first honey yield that they failed to swarm, and gave but little surplus.

I believe many have noticed two stocks, side by side, and the one with a *very* prolific queen come out in the fall weaker and with less honey than even the moderately laying queen by their side, whose bees are very hardy; but I have noticed that these long-lived bees almost always have *good* queens—but not always. I shall hereafter, in breeding queens for my own use, if necessary, throw aside prolificness, gentleness, beauty, etc., and breed from good workers, long-livers, and small eaters, instead. And you, Bro. Root, the one we consider on the watch-tower

looking for everything new and desirable, must assist us by your own personal observation, what time you can steal from your many duties.

M. A. GILL.

Viola, Richland Co., Wis., Sept. 20, 1880.

Many thanks, friend G. I have never noticed, to any extent, what you say, although I have noted particular stocks that were always strong, year after year, and that seemed to stand almost any vicissitude, and still keep up. As this is a very important point, it may be well to keep a lookout; but does it not pretty nearly cover the whole ground, if we select queens to breed from, whose colonies give us the greatest yields of honey, year after year?

HOW TO RENT BEES.

MR. ROOT:—We wish your advice in regard to renting bees. The facts are these: J. B. Bennett, party of the first part, has in possession 40 swarms of bees which he wishes to rent to Frank Blakeslee, party of the second part. Five of the swarms are Italian; the remainder are black bees. Twenty of the swarms are strong colonies, and the remaining 20 will require feeding before spring. Mr. Bennett wishes to rent them for one year, rent to be paid in cash, and your answer to this is to be the contract by which both are to abide. Now, we wish you to take this in consideration, the same as if you were one of the contracting parties. The business must be all settled now. The weak colonies will require about 150 lbs. of sugar. You are to estimate about what you think will die. The hives are single ones, movable combs. We wish no evasive answer, nor any more questions asked, because the bees have already changed hands, and both parties have agreed before witnesses that your answer is to be the law. Each party reads your journal, and both are quite expert in the handling of bees, and are willing to abide by your judgment as to the probable number that will die through the winter, the amount of honey and number of colonies, and the expense of handling the same for the coming year.

A. M. BENNETT.

Spartansburg, Crawford Co., Pa., Oct. 4, 1880.

If the winter should be a trying one, and the season poor next year, the one who rents may have a heavy bill to pay to make the stock as good as when he received it, to say nothing of profit; but, on the other hand, if everything is favorable, he may clear more from them than their present value. In view of both these extremes, I would simply reduce the stock to a cash value, and place the rent money at about what such a sum of money would rent for, as follows:

5 colonies,	worth \$5.00 each,	- - - - -	\$25.00
15 "	" 3.50 "	- - - - -	52.50
20 "	" 2.50 "	- - - - -	50.00

Probable value, \$127.50

The use of the above property one year (to be returned in as good order and as many stocks), at 10 per cent of value, is \$12.75. I would give the party who rents, the privilege of buying outright if he prefers.

The above is a low estimate, I know; but bees that need feeding in the fall are not very salable property, and *this* fall they are especially so. I would, as a general thing, advise buying rather than renting.

Heads of Brain, From Different Fields.

INTRODUCING VIRGIN QUEENS.

I NEVER knew till I read your book, that virgin queens can be introduced to nuclei or queenless colonies. So, I made a small box, tacked wire cloth on the bottom, cut a hole in the cloth cover of a populous colony, the size of the bottom of the box, set it over the hole, cut out my queen-cells, and suspended them in wire cages one inch in diameter and 2½ inches high; then set them in my little box, covered it up with cloths, and the warmth of the bees hatched out all my cells nicely; and as fast as they hatched out I made up nuclei, and introduced my white, tender queens *secundum artem*, and out of 12 queens thus introduced, all were killed but 3. The bees would at once attack the little fellows, pull their wings and legs, ball them sometimes, and make as though they would sting them. I had smoker in hand, and smoked the bees according to Hayhurst's instructions in A B C, and sometimes worked an hour. To some that had killed their queens the day before, and had started small cells, I gave young hatched queens the next day, and they would kill them in spite of my smoking and work. So, I have laid aside my nursery machinery, and now cut out my cells and insert them in brood combs the day before I make up my nuclei, and hang them in the hive where they were built, according to instructions in A B C. This plan works all right, and I think I shall adopt it entirely hereafter. Hayhurst says it won't work at all times, and I reckon I must have tried it at one of those "times." Before I tried the above process, a neighbor of mine (a beginner), at my suggestion had taken out black queens from full colonies, in several instances, and introduced young virgin queens at once, and they were always received.

A neighbor found a bee-tree this summer, cut it, hived the bees, took them home, left the brood comb lying at the tree, which is usual here, and in about two weeks had occasion to go there, and found a considerable swarm that had hatched out of those combs. He got a gum, and hived those bees also, and took them home, and they also are doing well.

S. C. FOX.

Maysfield, Milam Co., Texas, Aug. 2, 1880.

Your plan of nursery has been given several times before, friend F., and it will work just as well as any, in steady warm weather. I do not know where the trouble was with your queens, so many of them being killed, unless it was that you were new in the business. It is much easier to introduce newly hatched queens to nuclei, or very weak colonies; and, should you try it again, try them in such, and I think you will succeed better.

FEEDING LIQUID FOOD IN OCTOBER.

In feeding diluted honey or syrup in Oct. for winter stores, is there not danger of its not becoming perfectly "ripened" before cold weather, unless certain limits are observed? If so, what are such limits?

OLIVER FOSTER.

Mt. Vernon, Iowa, Sept. 24, 1880.

There certainly is danger, friend F., in feeding thin liquid food to a weak colony,

after cool weather has set in; but where there is an abundance of bees and chaff hives, or their equivalent, for protection, there is very little danger. Candy is much safer for cold weather.

EARLY-AMBER SUGAR-CANE, ETC.

I can not get subscribers, as I thought I could. They think they can get along without GLEANINGS now, as it will be of no use to them this winter. Some say they can not afford it; but they can afford to pay me 50 and 75 cents for dividing their bees, or at least they have done so.—My Early-Amber sugar-cane seed that I received of you was planted about the 1st of June, and from 1-5 of an acre I got 22 gallons of No. 1 syrup. How is that for cane?

N. E. COTTRELL.

Fayette, Fulton Co., O., Sept. 25, 1880.

HONEY FROM COTTON.

This has been a poor season here for honey. I shall probably get half a crop—not more. I think it a great mistake about bees getting honey from the cotton-blossom. I have watched very closely, but could not find them working on the cotton-blossom. My hives are located in the middle of a large cotton-field.

CHAS. H. KINCADE.

Sterling, Chicot Co., Ark., Sept. 20, 1880.

It may be a great mistake, so far as your locality is concerned, friend K.; but you will see by reports from others, given recently, that cotton is visited by the bees in great numbers in some localities.

RACCOONS, ETC.

I have received queens from Mr. Nellis in the Peet shipping-cage. They seem to work well, both for shipping and introducing.—Will raccoons destroy bees? I find the droppings of some animal that tracks nights among my hives, and I can't tell whether he eats bees or not; but it does eat bugs, crickets, and potato-bugs. — I see by GLEANINGS that some of your customers lose their queens by their flying away while introducing. If they will use a Betsinger introducing cage, and put their queens on the combs on the inside of a closed window, their queens will not fly away from them, and they will scarcely ever lose one in introducing if the hive has been without a queen over night.—Where can I get full-blooded, home-bred Italian queens that will produce the dark, or leather-colored bees? I want them very dark. I want bees for honey-gathering. I don't care if they are cross.

E. D. HOWELL.

New Hampton, N. Y., Sept. 23, 1880.

Raccoons will, at times, kill bees, much in the same way that skunks, frogs, and toads do; and it would seem that a great part of the animal kingdom have a sort of fancy for preying on our pets, solely, it would seem, to get the little drop of coveted nectar contained in their little bodies.—Your plan will do very well to prevent queens from taking wing; but can you not as well release them before a window with one cage as with another? Get an imported queen that produces dark workers, and raise queens from her. They will be quite likely to grow lighter, for the grand-daughters of our foreign queens are almost always lighter than their mother.

Inclosed I send specimens from a swarm of bees which I have. Some friend of mine found them while bee-hunting. It seems that they had been in an old woodpecker's nest, and some one had taken the honey, and they had collected on a bush a few rods from their old home. I took an old hive and brought them home, some $2\frac{1}{2}$ miles. They have the appearance of being pure Italians. That is my conclusion after reading your A B C book, which I have. There are not any such looking bees in this vicinity. There are 2 swarms of pure Italians in this place, but they are not as light colored as those of mine, and they have not lost any swarms. I am trying to keep them by feeding, and keeping them in a warm place this winter. I have not any sealed honey to give them, but have some fdn. which I bought of you. I should think the weather too cool to draw it out. I have 5 swarms of black bees, but do not think that they are good as Italians. If I could keep this swarm over it would give me a good start on Italians.

J. E. HAMMOND.

Oxford, Mass., Oct. 4, 1880.

A part have the marks of full blood, and perhaps all; they are so dried up that it is hard to tell. It is pretty late for fdn., but with careful feeding, *may* succeed. Can you not get one comb from each of your other colonies to give them and then feed? Your chances would be much better, if you could do so.

CALIFORNIA BEE-KEEPING, AND HOW THEY GET A SWARM DOWN OUT THERE.

We have not had a good year for bees here this year, but it has been so much better than last year, that bee-men ought not to complain. I started with 26 stands last spring; have 98 now; have lost 4 by skunks; sold 2, and have had several take French leave; have extracted between 2000 and 3000 lbs. of as nice honey as I have ever seen. Had it not been for the fire last fall, and the fog this spring and summer, I would have taken out at least five times as much. I must tell you how I saved a swarm of pure Italian bees. They clustered on a leaning oak on the creek bank, about 40 feet up the tree, and nearly 60 feet from the ground up. The tree would not hold my weight, and I could not get a pole up to them. To cut the tree would kill the bees. The limb that they were on was 2 or $2\frac{1}{2}$ inches in thickness. After getting my hive all ready (with 2 combs of brood), I took my rifle, and, at the third shot, down came bees and limb together. I hived them the best I could, and to-day they are one of the best swarms in the apiary. Nearly all of my bees are two and three banded Italians.

E. CADWELL.

Carpentaria, Cal., Oct. 1, 1880.

BEEES AND SMALL FRUITS.

Would it be profitable for a man engaged largely in small fruits to go into bee-culture for honey on a large scale? that is, would the bees break up the fruit farm?

F. C. DRANE.

Philadelphia, Pa., Oct. 8, 1880.

I would not advise any man to go into bee-keeping on a large scale all at once, friend D., and for that matter I do not know that I should advise him to go into any business in that way; but, as far as the bees interfering with the fruit is concerned, I should not hesitate a minute. I am now planting strawberries and peach-trees, and I am *sure* the bees will never trouble either of them.

We have 500 bearing grapevines now right over our bee-hives, but I do not know that I have ever seen a bee on the grapes, even during the severe drought that has just passed. I believe bees do sometimes get agoing on very sweet grapes, but it is only when they are dead ripe, and ought to have been picked some time before, unless I have been very much at fault in my observations.

THE NEW COVER, ETC.

You ask, in Oct. No. of GLEANINGS, "What do you think of our new cover?" Well, I for one don't think anything of it. I can't see what the artist had in view in the design, when he got it up. Oh that tree! It looks as if it might be a bee-tree. Then that wigwam, or what is it? Where is the smoke? The only pleasing feature about it is the motto in the arch of the dome. The "queen" of my domicile says she can beat it herself. Give us the old one next No. What has become of the Diary and Account-Book you spoke of in June No., page 261? J. P. WATT.

Duck Creek, Ills., Oct. 7, 1880.

Well, now, friend W., that is rather discouraging. The wigwam, as you call it, is a bee-hive, in its most primitive form,—in fact, away back, before they even twisted the straw into shape. On the other side, our friend Whiting, the artist, has tried to show a modern bee-hive. Tell your queen to give reins to her artistic convictions, and send us a sketch of the result. Friend Whiting had only a sample copy and the A B C book, and then did it to suit himself. Some others think differently from what you do, as you will see.—The account-book is all set up in type, but the demand has been so small for them, that, like Mrs. Cotton's great bee-book, it has never yet been printed. After a few more ask about it, we shall probably get it going.

PERFORATED-TIN SEPARATORS, ETC.

I think there is a wide-spread dissatisfaction with solid-tin separators. Can't you furnish tinner's punches of suitable size for perforating tin with round or oblong $\frac{3}{8}$ inch holes, and let us do our own perforating? I fear wire gauze can never be made to answer as nicely as perforated tin; and then, we dislike to throw our old separators away, if they can possibly be changed so as to answer.

J. S. HUGHES.

Mt. Zion, Ill., Sept. 21, 1880.

The subject is being considerably agitated now, friend H., but I fear you will not be able to get a punch to perforate the separators you now have, because it would bulge and curl up the tin, unless a die was made to work with the punch. Who among us has the necessary skill and tools to make such a machine for a small amount of money? Friend Jones is very enthusiastic on a separator made to divide off the hive, so that the queen and drones can be "fenced off," as it were, from the workers. The holes are to be oblong, and he says that, if made exactly right, the workers pass and repass, without trouble, but the queen and drones are effectually excluded. The separators are made of zinc, and with a pair of them, he claims to be able to make the bees store all the honey they gather in section boxes. in the body of the hive, and in the center of the brood-nest, if we wish, and that, too, with-

out getting either brood or pollen in them. The idea, I believe, comes mainly from our English friends. If I am correct, no surplus boxes are used on top, but all are placed in the one brood apartment, and the frame is to be a deep one,—much like the old American frame that has been used so extensively, and mostly discarded, if I mistake not. Our usual frame of sections, placed on each side of the brood-nest, it seems to me, covers about the whole of this ground, but perhaps I am not right about it. I have no doubt but that the perforated separators will be a great advance, but I can not see how it will pay to perforate the metal by hand, unless one has much spare time on his hands.

WHY DO THEY PICK AND PULL AT CERTAIN BEES.

Two or three bees are often seen to take hold of another bee and seem to be gnawing at it. Without hurting it, it seems to be annoying to the bee, and it curls itself on the side like. What are they doing to it?

I think such cases are usually young bees that have by mistake got into the wrong hive. The sentinels, recognizing that he is not a robber, do not want to sting him, and yet they wish him to take wing and get away where he belongs. He, poor fellow, discovers he is not with comrades, but, in his fright, seems not to know where to go, and therefore he curls himself up, not unlike a young puppy when scolded, and endures with meekness their bites and pinches, until they decide, seemingly by mutual consent, that no very great harm will accrue from letting him remain.

DRONE COMBS FOR THE EXTRACTOR.

You recommend drone fdn. for comb honey; which kind for frames for extractor? More honey may be stored with drone fdn., but the frames could not afterward be used in the brood chamber.

I should by all means prefer drone combs in the upper story, for the extractor. In transferring I have saved out all the drone combs, and put them into frames by themselves, and there is no question in my mind but that such combs were filled and capped over during a heavy yield considerably sooner than the worker combs by their sides.

CHANGES IN THE A B C.

Changes are made in A B C from time to time; why not publish them at the end of the year, making them a part of GLEANINGS, from which they might be separated and pasted into A B C? or, if separate, sent to such as want them.

A. B. KISE.

Safe Harbor, Pa., Sept. 20, 1880.

I have often thought of an appendix sheet for the A B C, but there are so many changes being made, and they are made so constantly, that it has seemed a little difficult to get at it. All of the matter first appears in GLEANINGS, and it is my purpose to put nothing in the A B C until it has been well tested. Several of our friends, when their A B C gets pretty well worn, sell them for about half-price to some neighbor, and get a bright new one; but I will prepare the appendix sheet, if there are enough who want it.

A QUESTION IN REGARD TO STARTING NUCLEI.

If I should take a bunch of bees from a colony and put them in a hive with some comb, and put a queen with them, will they stay and go to work, or will they go back to the old hive?

E. F. VARNER.

Harveysburg, O., Oct. 9, 1880.

Your experiment would probably fail, as you state it; but if the comb contained a little unsealed brood, a great part of the bees would be pretty certain to cling to that, and, if there were enough of them, they would, with the assistance of a queen, make a swarm. In saying this, I take it for granted that you would not undertake to do this in the winter, nor even at the present time in the fall of the year, but that all attempts in the line of artificial swarming should be made at about the time bees swarm naturally. A very severe (and, I can but think, needless criticism) has been made on a passage in the A B C, because I neglected to state, in direct connection, that the work was to be done at a season when bees swarm, although I very distinctly so stated at the beginning of the subject. Perhaps I should add, that, to have the above plan succeed well, we rather need some young bees. Those that cluster on the outside of the hive will be very apt to go right back home—the greater part of them.

THE GRAPE-SUGAR CANDY FOR WINTER.

I see some of the candy bee-feed is made according to your formula, except in the matter of flour. I used a less quantity, and it is candying in the cells of some of the bees to which I fed it, and I am sorely afraid it will be unfit for winter use. I was afraid to use the full quantity of flour, on account of souring. What additional light can you shed on this important subject? I am feeding 12 colonies, and am very naturally anxious to avoid mistakes and steer clear of Blasted Hopes. I used the candy last winter, which was very mild here, with the best of results.

SAM'L RAU.

Homeworth, O., Sept. 21, 1880.

We have had no bad result from using it, and have never had any remain in the cells so but that bees used it out in the spring; but stores of candy only, of any kind, are rather unsafe for winter. The bees will sometimes seem unable to get the requisite moisture to soften it up, and hence starve, where they would not, had they access to liquid food. On this account the candy must be fed quite early, or the bees must have at least a portion of their stores in the form of liquid food.

A WABBLING SAW FOR MAKING RABBETS.

Friend Root, we have been making Simplicity hives, and I think we have made an improvement on the method you give for sawing out the rabbits in the covers. We do it by running the board once over the saw set wabbling, thus saving one handling of the board, and doing as clean and smooth a job as it is possible to do by your method, and, I think, at a considerable saving of time.

D. G. EDMISTON.

Adrian, Mich., June 3, 1880.

Thanks. We have tried the same plan, but thought it cut so much slower that it did not pay.

COST OF IMPORTING, AND CYPRIAN AND HOLY-LAND QUEENS.

As to whether it pays to import *five* queens, I will let you judge from what the entire cost was. Cost of check, \$7.15; of express, \$13.76; total, \$20.61, and one of the queens was dead. The four are first-class queens.—Why do you keep Cyprian and Holy-Land bees with your Italians? From what I learn, they are crosser than Italians, and no better in other ways. Seems to me, you would not want to send out Italian queens fertilized by these drones, and consequently hybrid.

CHAS. R. BINGHAM.

Edinburg, Portage Co., O., Sept. 27, 1880.

Well, it seems, friend B., you did not do so very badly, after all, in importing a small number of queens; for if they are fine ones, as you say, they would have cost you a little more to have bought them here.—You mistake about the Cyprians being cross. They are very gentle, and nice to handle. I do not remember that I have ever used smoke at all for the Cyprians. It is only one of the two colonies of Holy-Land bees that are cross, and I have handled these without any trouble, in the middle of the day, when they were flying. They differ so little from the Italians, that I can not think any objectionable features will be developed by the cross. Of course, we shall not carry it to any great extent, unless the two races show some desirable traits.

I started, this spring, with 17 swarms—13 good, and 4 very light. The light swarms have built up to good heavy ones, and I have increased to 35, all heavy but 3, which I am now feeding. I have made 546 lbs. box honey, sold \$90.66 worth, and have on hand 142 lbs. yet to sell. I sold all at 16 c. per lb. This is as near as I can get it. I think it will overrun this some, as we have used a good many boxes in our own family, which are not counted in this report.

I see in last month's GLEANINGS, that some one wishes us to tell what cage we prefer for shipping, introducing, etc.; also how bee-stings affect rheumatism.

THE PEET QUEEN-CAGE.

Now, I prefer the Peet cage above all others, and my reasons are these: In the first place, they are nicer, have more room for the bees to stir around, are lighter, and cost one cent less to send them by mail than yours. They are handier to introduce from, for you can open your hive, kill or take out your old queen, slide your Peet cage down between your combs, close your hive, and the thing is done; while, with your cage, one sometimes has to open the hive a number of times before the queen will be accepted; and I do not like to have a cage on top of my frames, because I can not use my surplus story while it is there, whereas the Peet cage makes no difference. Another good feature in the Peet cage is, that the back is made of tin, the front of wire, and you can see the bees much more plainly than you can in any other cage that I have yet seen.

BEE-STINGS AND RHEUMATISM.

In regard to the bee-stings, I can not see that they make any difference in rheumatism, as I have been troubled with it for years. Stings may be just as good as any counter-irritant, as far as they go, but I prefer other medicine, although bee-stings do not pain me in the least after two or three minutes. They swell quite badly at times, and at other times

not at all. When they strike a bone they swell, and do not swell when received in deep flesh.

That homely, dark, and small queen you sent me is all right, and has got the hive full of nice yellow Italians. I looked at her three days ago, and, as you said, she is a golden beauty.

I guess I will stop, for I want the reports all put in GLEANINGS; and, if I fill the whole book, how will you get in the rest? R. P. LOVEJOY.

Greig, Lewis Co., N. Y., Sept. 25, 1880.

I am very glad indeed to hear so many good reports of the Peet cage; but is it really true, that no one has lost queens while using them? If I am correct, you may have to open the hive a great many times with even the Peet cage.—Your last remark, friend L., is one that the A B C class would do well to think of often. If we are going to hear from all, we shall certainly have to learn brevity.

OMITTING STARTERS IN SECTION BOXES.

Now, I have a little matter that I would like to ventilate to you. When you sent catalogue, section boxes were entirely new to me. Well, I thought it a good idea, and went to work and put them upon two hives—7 frames of 8 sections each, in each hive. Well, the result is, that I have some 40 or 50 lbs. of honey in each case, but it is put in them in such a way that I can't get a single section out without breaking the comb. It is fastened upon one or both sides to the tin separators, and as soon as moved the honey begins to run. Now, I don't know but they are all right, but *why didn't you* let us know all about that part, or else tell us where to get educated bees for the bees-ness? Perhaps one well-trained bee might teach a whole apiary, and then the sections would be of use. Is it a common thing for you to have bees do this? If not, why not? and if so, what can be done to prevent it? The separators were of new bright tin, 3 in. wide. I shall go back to the larger boxes if that is the way they usually work.—My bees are Italians. D. E. WASHBURN.

Felchville, Vt., Sept. 27, 1880.

Although you do not say so directly, I infer you omitted the fdn. starters, friend W., and then, of course, you would have trouble. Had you examined the catalogue a little more closely, I think you would have noticed this point. Starters of natural comb will do, if they are sufficiently large, and put in exactly square; but, of late, fdn. starters are so universally used that I had almost forgotten that anybody ever did make the mistake you have. Your sections were, I presume, by what you say, home-made. Prepared as we put them up, not one section in a thousand should leak honey.

INTRODUCING UNFERTILE QUEENS SEVERAL DAYS OLD.

Though it is late in the day, I will attempt to answer your communication in the July No., p. 321, in regard to unfertile queens. Although I agree with you in part, I will have to differ with you in opinion in regard to introducing them; for I have introduced them 4 and 5 days old; and, if you will send me one next season, I will introduce her and return her to you a laying queen. S. H. LANE.

Whitestown, Ind., Sept. 25, 1880.

The exception only proves the rule, friend L. I too can introduce virgin queens four or

five days old, sometimes; but I would not like to *guarantee* to do it. A month or two ago a bright-looking young man brought us some queens he wanted to sell. I questioned him about his imported queen-mother, etc., and, as the queens looked nice, I bought them to introduce. I may here remark, that I never buy queens without knowing something of the one who raises them, or unless I first introduce them into my own apiary and test them. There were about 25 of the queens, if I am correct; but, before we got them introduced, we found a good many that looked surprisingly as if they were just newly hatched. After a great deal of work we got about two-thirds of them introduced, but many of them did not lay for ten days or two weeks. Meanwhile, our boy had been studying his A B C book that he took when he sold us the queens, and pretty soon he confessed that he, through ignorance, took the greater part of the queens just as they hatched out. He learned his lesson, and I learned mine, a part of which was, that virgin queens *can* be introduced by caging. But I do not want to undertake it again.

CONVENTION REPORTS, ETC.

From what you say on page 494, last No., I should think you thought of publishing convention reports. We have enough of that, and to spare, in the other bee publications. My advice to you is *Punch's* advice to the man about to marry,—*DON'T*. L. C. Root did report a good crop for 1880; but I think, from what I hear, that Herkimer and Montgomery county bee-keepers have all had a very good yield. Can't you get some other report from that section—say Philip Elwoods, Starkville, Herkimer Co., N. Y.? I know his is very large, and he has about 700 swarms.

N. F. CASE.

Glensdale, Lewis Co., N. Y., Oct. 3, 1880.

FOUR-BANDED BEES.

You say in the A B C book, that you have never seen a four-banded bee. Now, Mr. Root, one of the dollar queens I bought of you produces all four-banded bees. The third band is the widest of any. Now, if you think I am mistaken, I will send you some of the bees, so that you can see for yourself.

D. E. ROBBINS.

Hesperia, Oceana Co., Mich., Sept. 17, 1880.

Since reading the above I have taken a look, and I think I shall have to confess, that Italian bees can be selected that have a portion of a fourth band, visible when the bee is made to elongate itself sufficiently. I do not think they can be found in every colony, but perhaps one or more colonies that can be made to show it may be found in almost every apiary. Do not confound this band with the fringes of yellow down that are always liable to wear off, but look for a permanent yellow in the horny substance composing the band.

KEEPING QUEENS A MONTH OR TWO.

Will you please tell how you keep queens a month or two? I lost mine in ten days.

MARIA L. DEMING.

Watertown, Wash. Co., O., Sept. 25, 1880.

Give them pure water and pure sugar and fresh young bees as often as they seem dumpy. We have kept them thus out of

the hives as much as a month, but occasionally one would die, do the best we could. I do not think it well to have bees out of the hives more than a week or ten days; but if it were really necessary, I would make a larger cage and give them not only water and sugar, but sealed honey as well, and I would give them about $\frac{1}{4}$ or $\frac{1}{2}$ lb. of bees with them. This is the way friend Jones fixes his bees for their long voyages from Cyprus island and the Holy Land, and he says they have never yet lost one in shipping in our country, that he knows of. It is a good plan to allow the little colonies to fly once in awhile; but when you do, you must stand sentinel at the entrance, and when the queen makes her appearance, as she often will, you must cage her and leave her near the entrance until the bees all come back; then shut them up, put her in, and your little hive is ready for another three or four weeks. Friend Jones uses a glass bottle of water, with a notch cut in the cork, on my old original plan.

BEES AND GRAPE JUICE.

I am making wine, and the bees want to work on the grape juice. Will it hurt them? I see nothing in your A B C on the subject. Will they get honey from them if they are not injurious?

Canton, O., Sept. 23, 1880.

E. H. MORRIS.

Our bees have never gathered enough grape juice to give it a test; but, from what I have seen of the effects of fruit juices, I should think it would be about as bad as cider. It will not make honey, or, at least, not such honey as comes from the flowers. Cider stores, when ripe, form a sort of transparent fruit jelly, which is almost sure to produce an aggravated form of dysentery.

WHY DID THEY SWARM OUT SO MUCH?

About a month ago a hive had been invaded by 3 several small swarms of bees, one of which was Italian. Friend Foster lives $2\frac{1}{2}$ miles from me, and has the only Italians about here within 7 miles, and has lost one swarm. Soon after this quadruple voluntary union, they left the hive for a bush in the apiary. They were rehived without trouble. This performance became a daily thing, and, not yet being up to the A B C's, I did not for a long time suspect the want of a queen. I tried them in different boxes and other frames, but stay they would not. I finally noticed that little or no change was made on any comb or fdn. given them, and that they had no pollen, and were not laying up honey, and had no eggs or brood. I then wanted a black queen of friend Foster, who could not supply me, but named you. I sent from here on the 7th; on the 10th, about sundown, they swarmed out, and, after they had clustered, noticing other bees entering the vacated hive (attracted by the sugar syrup that was being fed to them in the hive), I stepped up and closed it, turning away again. My son of 12, however, recalled me, exclaiming, "Here is a queen trying to get in!" Before we could secure her, she mounted high up and flew southward. Next morning, the 11th, they came out again quite early, about 7 o'clock. After that, they manifested no disposition to swarm, and Saturday and Sunday they were storing some honey, and eggs were discovered!

LARGE EGGS.

They were the largest bee-eggs that friend Foster

or I ever saw—a good deal larger than common. Friend F. examined the colony with me on Monday, and we concluded that it had dwindled down so low that it would be better to unite it with some other hive. We found the queen that laid the large eggs. She was large and fine looking, and, withal, full (I suppose) of eggs. We pinched her head off, and, after a good smoking, emptied them into a well-smoked hive. They were all right in a few minutes. I can't account for the presence of this large-egged queen. It was evident, she had been laying only about two days. Perhaps she was a young, unfertilized queen up to Saturday, the 17th. GEO. H. WADDELL, M.D.

Coronaco, Abbeville Co., S. C., July 20, 1880.

Your large colony did not swarm out because they had no queen, but because they had an unfertile queen, and no brood in the hive, I think. At the time you saw this queen, the whole colony had attempted to follow her as usual; but, not finding her, they clustered, and the queen came back alone, when your son noticed her. A frame of unsealed brood, that we have talked so much about of late, would, in all probability, have saved all of your trouble. I can not think why you should decide the colony could not build up when they had a good laying queen in the month of July. I would have saved her on account of the large eggs, if nothing more, even had it been December instead of July. Are not some of our friends a little in haste, to pinch queens' heads? Give me a young laying queen, with the oldest bees you can pick out, and I will make you a good colony from them during any of the summer months.

CALIFORNIA.

The only dollar queen I saved out of the four you sent me last fall is the poorest layer I ever saw. She can not keep up a decent nucleus. Still, the \$5.30 was well invested, for the hybrids raised from her and my black drones were far superior to the blacks in filling frames full of brood—many of them giving over 10 frames of brood and larvae to the hive. We have increased from 10 to 40 by the use of fdn., using 10 frames below for brood, and 10 above for extracting. We got but little honey during the summer—just enough to keep up breeding; but now they are doing well, we think. We got about 30 gal. during last week; the honey is a light yellow and fine quality, but I can not tell where it comes from. Goldenrod is in bloom, but I can not find a bee on it, even though some of the beautiful yellow tops are within a rod of the hives; neither do they appear to gather from sunflowers, of which there are thousands in bloom, except it be now and then a bee that seems to be looking on the stalk for a kind of pitch with which they fasten the frame tightly in some cases.

BEEES TROUBLING FRUIT.

We have over one thousand vines, of some ten varieties, and had trees full of peaches, many bird-picked, during the season when there was no more honey than sufficient for brood-rearing; still, I have yet to see the first bit of fruit disturbed by the bees. They were lively on the blackberry blossoms, but never disturbed the fruit.

There is one problem I should like to have solved. What would you do if you did not want to increase the stock of bees, but wished to get as much honey as possible? that is, suppose you have two-story

Simplicity hives, and the queen is not satisfied in filling all the frames below, and goes up and fills the frames there with brood also. Again: Why do the bees bite the capping off from many cells, sometimes leaving the little white heads exposed? Is capped brood injured by the motion of the extractor forcing their heads against the capping?

J. B. RUMFORD.

Bakersfield, Kern Co., Cal., Sept. 4, 1880.

I should hardly want to rear drones to stock my apiary, friend R., from a queen that was not prolific; but it may be that her producing so little brood was occasioned by something connected with her long journey, in which case it is not likely her progeny would inherit the fault.—You can easily get the honey, even if the queen should lay in every comb, both above and below, by the use of the extractor. I think you will find that when the queen gets to laying very much above, she is neglecting the lower story, and I would lift some from below that had no brood, and put those having much brood below. If the colony is not strong enough for the room they have, they will often all move in a mass into the upper story, because the warmth rises up, toward the roof.—The uncapped brood you mention is all right, and is fully explained in the A B C. The extractor does not harm the brood unless turned so fast that the unsealed larvae is thrown out.

I have watched you, and frequently have seen you apparently forsake your own interest, and even offer a reward to encourage an invention likely to prove a loss to you, all *pro bono publico*, especially to benefit the readers of GLEANINGS. I therefore feel free to write as I would not otherwise.

COMB FOUNDATION.

I have used, this season, your light drone fdn., Van Deusen flat-bottom fdn., and Vandervort's natural-bottom fdn. Van Deusen fdn. makes about 10 sq. ft. to the pound, and Vandervort about 9½ sq. ft. to the pound. I have fairly tested these varieties of fdn., and am satisfied that the bees will begin to store honey in all at the same time. I have had Van Deusen fdn. drawn out and honey stored in it within 24 hours after giving it to the bees, and I can say the same of the others. The Van Deusen being the lightest, I can with less money fill my sections, if it could be obtained at the same price per pound as the others. John Vandervort, of Laceyville, Pa., makes a thin, natural-bottom fdn. with a side wall as high as the Van Deusen, and I don't see how a more perfect fdn. can be made than this; but he has not yet given us the price of it. My experience leads me to use and recommend, hereafter, very light fdn. with high side walls, the Van Deusen and Vandervort kinds being the only ones I have used answering the test. I shall also hereafter always fill every section, and am sure I shall obtain, as I already have, a profitable increase in the amount of surplus honey.

SIMPSON AND SPIDER PLANTS.

The seed I saved last spring has produced plants that have caused me a good deal of disappointment. I had often seen yellow-jackets and other insects about them both, but never a bee; and yesterday, thousands of winged ants (I believe they were) were flying around the Simpson plants, seemingly enjoying something obtained from the flowers, but not a

bee near. A few bees were then about noon on the Spider plants. When the Simpson and Spider plants first began to bloom, I could, every forenoon, shake the drops of honey out of both, but lately could find it in neither. This morning I went earlier than usual to examine them, while yet the sun lacked a half-hour of rising, and found the bees already there, but no ants, yellow-jackets, or bumble-bees then. They doubtless came in time to smell where the honey had been.

MOLLIE HEATH PLANT.

Please tell us just how to grow this plant. I have put the seed in the hands of a florist three times to start for me, and but one seed germinated. Your directions, "Stand seed on end," was closely observed, and one seed sent up a plant, but the little thing refused to "stand on end" after a few days. I again obtained two seeds, as the plant had "damped off." These I placed in the open ground, and said, "Take care of yourselves." No return from them. Please direct us more fully, and describe the plant and its bloom.

SECTION BOXES.

We have received samples of these from several parties. Do they all send a fair sample of what we may expect if we order a thousand? I received from you a sample section very much smoother inside than the thousand I received from you. Those bought were satisfactory, but I think the sample should always fairly represent the goods.

Oxford, Pa., July 15, '83. S. W. MORRISON, M. D.

I have never yet seen a Mollie Heath honey-plant in bloom. We have one in our garden, but, although it is 3 or 4 feet high, there are no blossoms as yet. We too had trouble in getting it started, but the beauty of the foliage is well worth the trouble, after all.—Samples of sections should certainly be no better than the regular run; but, our stock of seasoned lumber giving out last season, obliged us, against our will, to send out work not quite as nice as samples sent in the spring.

RHEUMATISM AND BEE-STINGS; A GOOD REPORT AT LAST.

I noticed friend Lemmon's questions in September GLEANINGS, and forgot to give any answer until I saw it in the Oct. No. Seven or eight years ago I was struck down with neuralgia, or acute rheumatism. I suffered all that it is possible for a mortal to suffer and live. I tried all the liniments I could get hold of, but with no effect. Since then I have handled bees all the time. The doctors tell me that is what is curing me. I can't tell how many stings I get a season. I transferred 428 swarms this season, and did not get stung except when I hurt the bee. I often do not know when I get stung.

Enfield, Ill., Oct. 8, 1880.

A. W. DALZELL.

SOME OF AN A B C SCHOLAR'S TRIALS.

I am getting along very well in bee-keeping, considering this is only my second year, and hardly that. Up to the middle of last year I didn't know a bee from a blow-fly. It was then I accidentally got a swarm, or, rather, two, which I soon after made one. That was the time I sent to you for the first queens I ever saw. The man I got the bees from cheated me. There was not a quart of bees in both hives put together, and, of course, in my greenness these soon dwindled down to "M. T." hives, or, rather, logs; for they were in logs. Last winter I bought

3 more colonies for a new start. In the meantime, I got the A B C and GLEANINGS, and I now have 6 fine strong colonies, each one with a fine large Italian queen, which I raised from a queen I got from Hayhurst, all in L. Simplicity hives. I have received 75 lbs. of section honey so far, and \$100 worth of experience. While I am writing, I would like to say two things; i. e., the $\frac{1}{2}$ story, to hold 28 sections, I could not use, on account of the fact that the sections would get gummed so fast to the broad strips that I would often pull the bottoms off and otherwise disjoint them in trying to get them off; and then, again, the bees will get on the strips and get mashed. Second, I have some trouble by getting the comb in sections stuck to the tin separators, and thus pull the capping off when I go to remove them.

Austin, Texas, Sept. 29, '80. JAMES G. TAYLOR.

I think your trouble with the $\frac{1}{2}$ story, friend T., lies in not knowing how to handle them, in some way, for we have sold thousands of such hives, and no one else has made such a complaint. Find a section somewhere that will come out easily, and you can then very readily take out the rest. Drive the bees out of the way with smoke when you wish to replace sections. I fear you have not used fdn. starters, if your bees stick the honey fast to the separators.

GRAPEVINES FOR SHADE, ETC.

I got one of your A B C books last summer. I began with two colonies, and now I have an increase of six. I use the L. frame and the Simplicity hive. This was a poor season for bees. All the honey they gathered was in August. But my object in writing to you is to say something about the grapevines. You told us in your A B C book to plant the grapevines under the central wire, and then you said that you had your entrances in all directions of the compass, and I can't understand. It seems to me the vines will be in the way of the bees if the entrances are turned southward. I would like to fix my apiary in the same way, and I don't know how to get at it. And something else I would like to know: Don't you ever work up the ground around the vines? It seems to me that if the ground never gets worked up they can't grow; and when the ground is worked and hoed up, it spoils the apiary. Berne, Ind., Oct. 4, 1880. DAVID SCHWARTZ.

The bees fly right out under the grapevine trellis, without the least trouble in the world, friend S., and we do not dig up the ground around the vines, because we do not want a very vigorous growth, where a vine is confined to such narrow limits. I discovered, by accident, a plan for making the vines bear, at least on our soil. Last season we prepared one of the seven apiaries for setting out the hives, by spreading a bank of coal cinders on the north side of the vine, preparatory to setting out hives. This spring we were astonished to find this one apiary of about 60 vines full of blossoms, while the rest had almost none. When they were loaded with ripe fruit, it was a sight indeed to see such a marked difference. A farming friend, on looking at the matter, and hearing me defend coal ashes as a manure, asked if we did not burn some wood with the coal; and, when told of the sticks and shavings that some days almost run the engine, gave it as his opinion, that it was only owing to the well-known virtue of wood ashes instead of coal cinders.

HONEY-DEW.

We have had quite a shower of honey-dew in August. Our bees carried considerable quantities of it into the hives, commencing to work in the morning before it was fully daylight, and continuing all day busily. Brood-rearing went on rapidly, and they seemed to be almost on the point of taking the swarming fever, when the supply was cut short by a cold rain. The substance is a sweetish liquid, with a slightly pungent taste, and, after about two hours' evaporation in the sun, is very sticky, and of about the consistency of well-ripened honey. Bees, as well as hornets, yellow-jackets, and other insects, seem very fond of it. Now, all this was produced by a small plant-louse on the small branches of our common yellow willow. The insect looks like the cabbage-louse, and a louse frequently found on the tips of young grapevines, except that it is of a dark purple color. It was discharged from the abdomen of the insect in tiny drops about the size of a pin-head; and, by placing the insect between yourself and the sun, you could see it falling in a fine spray. Early in the morning it would be so abundant on the leaves that it would fall to the ground in large drops.

No surplus honey here. Bees are in excellent condition for wintering. M. L. STOLLARD.

Tarleton, Pickaway Co., O., Oct. 4, 1880.

NOT ONLY A DROP, BUT A STREAM OF HONEY FROM A SINGLE FLOWER.

I have never seen the *Cobea scandens* recommended as a honey-plant. I have one plant, a very ornamental climber, with a large, bell-shaped flower, which, at full bloom, has a small stream of honey running from the cavity in the center, which seems to be nearly filled to the lower and outer edge, where it stands in a small pond, or, rather, a large drop, where it looks as if it would drop off. I have never watched to see if it did drop off, but I have seen 3 or 4 bees take loads from a flower, and still leave a good supply. Mine has not been in blossom long enough to judge fully how valuable it may be for a honey-plant. (I send a description, clipped from a price list, which you may publish if you think best.) L. C. LINCOLN.

Greenville, Montcalm Co., Mich., Sept. 20, 1880.

Here is the description :

COBEA.—A fine, rapid-growing climber, with handsome foliage, and large, bell-shaped flowers, green at first, but rapidly changing to a beautiful, deep violet blue. Seeds should be started in a hot-bed, in rather dry soil, as they are apt to rot in open ground. A well-established plant will run fifty feet in a season, covering a large veranda with handsome foliage and beautiful flowers. Tender perennial.

Since the above was sent us, I have been so fortunate as to get a nice large vine of the *Cobea scandens*, and it is now in our greenhouse, but will probably not blossom until another season. This is how it came : After talking with the inmates of our jail the Sunday after the letter was received, I told the men that if there was any commission I could execute for them to please mention it, and I would be most glad to serve them. One of them, who is a market gardener, asked if I would be so kind as to take up a choice vine he had, and put it in my greenhouse, that it might not be killed by the frost. I promised, and when he afterward mentioned that it was *Cobea scandens*, I was almost a little startled. Do you think, dear readers, it is possible God sent it.

LIME-VALLEY APIARY. FIRST ANNUAL REPORT.

I put into the cellar, in the fall of 1879, 18 hives of bees, apparently in good condition, except one. I sold 2, gave one to a namesake, and lost 2 in wintering,—and therefore began the season of 1880 with 13 stands. One proved to be queenless, and had to be provided with brood to raise a queen. I have increased to 22, entirely by natural swarming, and have taken 332¼ lbs. surplus in Lewis & Parks' 1½ lb. one-piece sections, and 236 lbs. extracted, from upper story. Largest quantity from one hive, box and extracted, 89¼ lbs.; smallest quantity, nothing. I have taken nothing but surplus—not having meddled with the brood department at all, and worked for box honey, except on a few hives. All hives are now well filled for winter. I winter in cellar,—and have generally had good success. Honey sells in this market at 15c for extracted, and 25c for nice box. Demand is only local. Not enough honey is produced here, however, to supply the market at all seasons. Isn't that the case generally? I seldom see honey for sale in any town, except in fall and winter. Do we sufficiently supply our home trade at all seasons?

I use a hive 10½ x 16½, and 11 in. deep, with frames running crosswise. I sometimes wish I had adopted the Langstroth, for the sake of uniformity; but I have about come to the conclusion, that it doesn't make much difference what kind of a hive a person uses if he knows how to handle it.

I began bee-keeping more for the pleasure of it than for profit. My experience has indeed been pleasant, and the more I study bees and handle them, the better I like it. There is more genuine enjoyment in handling the bees than in selling the honey.

My neighbor bee-keepers have not done as well as I have. They complain that the bees refused to work in boxes. I find it much more easy to get extracted honey from an upper story, than nice box honey.

EUGENE SECOR.

Forest City, Iowa, Oct. 4, 1880.

SEPARATORS OF STRETCHED WIRES.

I read what you and some one else had to say about wire-cloth separators. Being at the time ready to put in some wide frames, and needing separators, I concluded to try an experiment. As a temporary expedient, I drove tacks on one edge of the end bars, just ⅝ in. apart, then strung some fine wire, as fine, or finer, than the horse-hair used by ladies for waxwork, back and forth, horizontally only, until one side was so covered. The section boxes in place, and frames in hive, so far seem to be as good as any separator, and much cooler than tin. The difficulty is, to get them tight enough and not break.

GEORGE H. WADDELL, M.D.

Coronaco, Abbeville Co., S. C., July 20, 1880.

The idea of wires, friend W., is hardly new, and I think the principal objection is their frailty. If stuck with propolis, they would be pretty sure to be broken in removing the honey. A few wires, braided across to strengthen and stiffen them, would make a sort of open wire cloth of large mesh and very fine wires, and it is this we have been talking about making.

THE GIANT HYSSOP, OR NEW SIMPSON PLANT, ETC.

Prof. Beal's notice of the plant I sent you, as found on p. 479, Oct. No. G. B. C., surprises me. I supposed

the professor to be quite proficient; but I doubt if he ever saw this plant growing. If you live to see this giant hyssop growing in your garden, you will see a plant nearly *identical*, in its early growth, with figwort—stalk, leaves, general appearance, seed, and also habits of growth. I judge that so many features in common indicate that they are of the same family and genus. This plant has no resemblance to anything belonging to the mint family. But I may be mistaken theoretically. Your advertisement of the “nice spirit-levels” in Our Homes is *awfully* ingenious, I should think.

G. W. DEMAREE.

Christiansburg, Ky., Oct. 5, 1880.

Are you not a little rough all around, friend D.? I confess I was inclined to think it strange that two plants should look so much alike, and not be related at all; but I thought, and still think, that our very kind friend Prof. Beal knows a great deal better about his own line of work, than—well, than I do, certainly. As I suggested to him that I thought it must be another figwort, it is hardly likely that he would be mistaken. You also think that I chose my illustration, to which you refer, because I wanted to sell levels, do you, friend D.? It came into my mind as I wrote, and I used it; but it was not until it was in print that it occurred to me I might be charged with using the Home Papers for advertising purposes. If I succeed in selling all the levels at *retail*, I shall make a profit on them of \$18.00. This amount I will most cheerfully remit to you, as soon as you consent to accept it and use it toward making, or fixing up any public watering-place in your vicinity. Are you not in danger, my friend, of seeing evil in others where it does not exist?

A QUEEN STORY.

Those queens you sent me over a year ago came all right. It was a very cold, snowy day here. I had to carry them a mile or so. On opening them, all the bees and queens lay on the bottom dead, as I supposed. I lighted my lamp and held them over to warm them. The queens all revived, and most of the bees. I discovered that the queens had the greatest powers of endurance.

I kept them awhile until it came warm weather, and then put them into my swarms. A little incident I will mention:

When I let loose one of my queens, the bees had not received her, and they immediately balled her. I took her out and slipped her into the cage. One of the bees followed. She then slipped out and rose a few feet and disappeared. I had lost my queen! I waited one hour; no queen appeared. I traveled three miles on foot to see some friends, and carried my coat on my arm, changing it from one arm to the other half a dozen times. When I entered my friend's house, and had shaken hands, a child discovered a bug upon the window. I looked at it, and there was an Italian queen-bee on the window. Having my little cage in my pocket, I put her in, took her back, and put her into my hive again. How came she up there, three miles away? Well, she must have alighted on my coat some way, and, being frightened, hid away. I lost both swarms by the water-pipes in the cellar freezing and bursting in winter, and molding the combs. I have two very fine Italian swarms in there now.

BEEES CRAWLING INTO THE EAR.

Last Saturday I put two Italian queens into black swarms. Just before finding the last queen, a bee got under my veil and crawled about on my ear. I tried to pinch him, having a frame of bees in my hand. He got a little frightened and ran into my ear, more than his length—in fact, out of sight. Whether he was after ear-pollen, or to make me dance to the tune of Hail Columbia, I know not; but drumming on the drum of my ear with his two antlers was what kept me in an anxious state of mind. If any of your Western bee experts would like to try that thing for the sake of listening to some high-keyed music, they may, but give me the music of my callopie, of which I am the inventor, in preference. Did you ever hear of the like? I went to the house. The lady said at first she could not see him; but on pulling the lower part of my ear down, he was visible. The good lady then picked him out with a darning-needle. He didn't stay, and I don't want any more to go into my ears. You wouldn't, would you?

J. C. STODDARD.

Springfield, Mass., July 18, 1880.

To be sure, I wouldn't; for, to tell the truth, I have had just exactly the experience you mention. It was a year ago last spring, when friend Hill, of the *Bee Keepers' Guide*, was paying us a visit, that we went out into the apiary, after a cool morning, just when the bees were beginning to fly. It was so cool that they seemed to have that unpleasant fancy of alighting on one's clothing; and then, if he should happen to turn them out of the sun, they would dive down out of sight, apparently seeking a warmer place to stay. In a very few minutes, a bee alighted on my ear. Thinking he would fly away when he got ready, I did not even take the trouble to get him off. Pretty soon he began to crawl into my ear. I did not mind it, for I thought I knew there was no passage into the head. To my horror, I was obliged to admit myself mistaken; for, of all the horrible sounds and sensations, I believe I never before experienced any thing like it.

Of course, I expected every minute he would sting, and I just felt as if I really could not have a sting right in the inside of my head, *no how*. I lay right down in the mud, gave Will my knife, small sharp blade open, and told him to get him out. He said there wasn't any bee in my ear; but I told him to cut down into it until he got to him, and, by pulling the ear down as you say, he pried him out without “ary” a cut, or sting either; and I tell you I felt as happy as a bird after that.

Moral.—Don't ever let a bee crawl into your ear.

GRAPE SUGAR AND HONEY; COMPARATIVE VALUE AS BEE FEED, ETC.

I desire to know whether 5 lbs. of grape sugar will make 5 lbs. of stores or honey. And can we raise a tested queen from a tested one?

D. E. BEST.

Bests, Pa., Oct. 8, 1880.

Five lbs. of grape sugar will make more than five lbs. of stores, because the bees will have to bring some water to put with it before they can store it in the combs. This water will soon evaporate, however, if the sugar is pure grape, and it will be as hard in

the cells as it was in the barrels. Although honey is composed principally of grape sugar, I hardly think 1 lb. of grape sugar will, aside from its hardening propensity, sustain life as long as 1 lb. of honey; this may be owing to the cane sugar contained in the honey, but not in the grape sugar. I have before estimated that grape sugar is worth $\frac{2}{3}$ as much as cane sugar for feeding bees, and further experience has not induced me to change that estimate.—To be sure, you can raise tested queens from a tested queen, so far as the mother is concerned; but you can only determine that your young queens have met Italian drones, by testing them by their progeny; and it is this that constitutes a tested queen. To be on the safe side, of late years we have been in the habit of using queens imported from Italy, for mothers to all our queens.

BEES THAT WON'T START QUEEN-CELLS.

I have 3 queenless hives. Now, how can I get them queens from my old hives? They have started queen-cells all over their combs. I have some good strong swarms, but I can not get a queen-cell that has any egg in it. I wish you would start me right in this matter. Now, A B C tells me to put in a frame of brood. I have done so, but there is no queen or brood as soon as they are all hatched. I want to work for increase instead of honey this season. Will my bees raise their own queen? Will sawdust do as well to pack down bees for winter, as chaff?

L. L. LOMIS.

South Ridge, O., July 9, 1880.

I think, my friend, that if you have a hive that hatches the brood without starting queen-cells, they have a queen, or something they treat as a queen. It seems a little singular that you should have three such. You will have to give them two or three frames of bees and young brood, and they will certainly start cells then, or enable you to hunt up and remove any wingless or imperfect queen they may have. As to which is best, sawdust or chaff, is an unsettled matter; we prefer the chaff.

ROBBING NEIGHBORS' HIVES, AND WHAT TO DO ABOUT IT.

I am not a regular subscriber, but would like to ask a question. Last summer, a neighbor living about half a mile away came to me and said he believed my bees were robbing one of his stocks. He said he had been flouring the robbers. We then went to my bee yard and soon saw (as I have but 3 or 4 stocks) some of them coming in as white as my uncle when he has had a hard day's work in his gristmill. He asked me if I could not stop them some way. I asked him what I should do. He said if I would only turn up the hive and run a stick up in they would stop at once. I accordingly picked up a short stick, and, while I was doing as he suggested, I heard some lively footsteps, and on looking around I saw my neighbor with one hand in his hair, and with the other striking at something; and the last I saw of him was when I handed him his hat over the fence in the street, and he looked as if somebody had struck him. Well, I sat down and had quite a hearty laugh, until his son told me my bees had completely ruined one of his father's stocks. I then began to feel very sorry, and wondered if I ought to pay him for the loss of his stock, or give him the surplus honey, which was about 60 lbs. Please tell

me which, if either, would be right. I must say, I hardly think it was my fault. If he had read GLEANINGS, or some other bee-book or paper, he would have known better what to have done. He has been a bee-keeper much longer than I have.

WILLITT C. BROWN.

Pleasantville, Westchester Co., N. Y., July 24, 1880.

I am very glad indeed, friend B., to see you indicate such a Christian spirit, in being willing to recompense your neighbor, even when he is greatly at fault, and I am sure God will bless you for it. It would not be right, as it seems to me, for you to give him so much honey, or to pay him for the full value of the colony; but I would suggest that you talk over the matter together, and you will easily arrange the matter satisfactorily to both of you. If it were my bees that were robbed, I would not take any thing as recompense; but if my bees should rob a neighbor, and carry his honey into my hives, I would willingly pay him for the honey, and also for the loss of the bees and queen, if he thought it right I should do so. Perhaps the bees and queen were not lost; in that case, you can help him to fix them up. I do not know but that I should reprove you a little for laughing, friend B. There are times when one must *not* laugh; and especially is such the case when a fellow-being is suffering.

LOCUST-TREES FOR HONEY.

I noticed an article in June No., p. 235, by some one wanting to know about the common locust as a honey-bearing tree. Since 1874 the locust has blossomed heavily until this spring, when it almost failed in this section. The consequence was, that bees were nearly ready to starve before the clover blossomed. They are doing pretty well now, and are making a good deal of honey. I have had the only swarm that I have heard of in this section. I have made seven artificial ones, which I think are doing pretty well. But, to return to locust. It is one of the most valuable trees grown here. Although it is a native of this State, I believe it is up to all other wood. For posts in the ground, at least, I know no other so good. It grows very fast when properly cared for. But the borer is hard on it. They tell me in Missouri it must therefore be well cared for to get it to live. I do not know whether the bloom is always full of honey or not. In the spring of 1879 they worked well on it, and filled their hives so full of honey that they blocked the queen and injured themselves. We have no extractors here, and so we had no remedy.

But, to return to GLEANINGS, I would say that the sample copy furnished information enough to pay for my subscription, and so I shall have it the balance of the year. Tell those who want trees I will deliver them at the express or freight office at from \$15.00 to \$50.00 per 1000. Nine hundred will set one acre, and afterward, in about 6 years, cut every other one out, going each way, and you will have a nice orchard and lots of nice posts if the soil is favorable.

I have one of your lamp nurseries made for my own use.

S. D. RUTHERFORD.

Kearneyville, Jefferson Co., W. Va., July 13, 1880.

MY DOLLAR QUEEN.

The first week in May, one of my box hives sent out a large swarm which clustered on a cedar-tree. I hived them in a 1½ story Simplicity, except about

a quart, which jarred off and settled about the root of a currant bush. These soon took wing and entered the caves of a neighbor's house.

A beginner in bee-keeping, I thought I surely had the queen. On visiting a supply dealer in business, he advised me to look for brood. I did so, but did not find any; but I *did* find that a strong colony had become weak within three weeks, and I sent to A. I. Root for a dollar queen, and received her by return mail May 26th. I at once placed the cage above the frames, and the bees were delighted, feeding her through the meshes. Within an hour I opened the cage, and she was allowed to pass among the combs unmolested. The colony was very docile, and I introduced without smoke. On looking in next day, I soon discerned her with attendants paying her assiduous attention. She commenced laying in about a week, but not very freely; this I attributed to her long journey.

By July they were about half Italianized, but still weak; so, I introduced a frame well filled with brood and honey. This produced quite a number of blacks, and visibly strengthened the colony. Her progeny were of the same quality as the escort bees. Some, of course, were darker than others, and very gentle and industrious. I enjoyed watching them very much when they came home. They seem so much larger than the blacks, that I concluded they carry heavier loads. I shall not be satisfied until all my colonies are transferred and Italianized. In August they were still weak and short of stores, and so I fed them until fall honey commenced coming in. Then the queen disappeared, and I secured another frame of brood, and they are now, with few exceptions, blacks—weak and short of stores.

H. M. NICHOLSON.

Camden, N. J., Oct. 10, 1880.

WHAT TO DO WITH BEES THAT NEED FEEDING IN NOVEMBER.

I can get a good many bees that will be killed, by going for them, and if sugar will do will try to use them. Nothing but black bees in this country, except one Italian nucleus I got of H. H. Brown this summer. My crop will be nearly 1000 lbs., all comb, in 6x6 sections, from 24 stands in spring. Only five swarms—surplus all buckwheat.

T. F. SHEPARD.

Town Hill, Luzerne Co., Pa., Sept. 4, 1880.

It will be a little risky to try to winter colonies without combs, friend S.; but if you can get the combs also, or if you can spare a comb or two from several stocks of your own, I think you can save them without trouble. Years ago, some of you may remember I was very vehement in advocating coffee sugar as being cheaper and superior to honey for winter stores. Our friend Jones, when here, says that I may say that my position was all right on this, for he has tested it with hundreds of colonies. The only amendment he would make would be to use a purer sugar still than coffee A, and he has settled down on granulated sugar as being best and cheapest, all things considered. It costs only $\frac{1}{3}$ more than the A, and very likely furnishes just as much pure sugar for the money. He wintered 168 colonies entirely on sugar last winter, and all came out all right. We have fed out two barrels of it since he left. For winter stores, we melt grape sugar, let it get cold or nearly

so, and stir in about an equal weight of the granulated sugar. It is stirred in a large dishpan, and when it is so stiff that it can be handled with a paddle, it is put into wired frames in the way I have told you. In half a day, or perhaps a little more, if the weather is warm, the frame can be hung in the hive, and it is the most satisfactory way of feeding I have ever used. One of these frames will be emptied into the combs in about two or three days, and the stores are ripe and thick enough to cap at once. The only trouble I have found, is that the bees build comb in the empty frame about as soon as the candy is out of it. You must look out for this, and get it out, and move up the division board. The tray to set over the frames will answer the same purpose; but in our queen work we find the frame of candy less in the way. One set of wired frames may be used over and over again.

GALVANIZED IRON HONEY-TANKS.

Will you please inform me if you or any one you know has had experience in the use of a galvanized tank to keep honey in? Would the acid of the honey act on it, and what would be the effect? How long will tin generally last if used for the purpose?

PAINTING TANKS INSIDE.

If a cask or tank were painted inside, would the paint have any bad effect on the honey?

COOPERING.

Do you know of any published work on coopering? We have the timber in the mountains, and may be under the necessity of making our own honey-casks, but have no time to go and learn the trade. Perhaps we can get hints from books that will enable us to pick up enough of the trade for our purpose.

HONEY VS. SUGAR, AS A BEE FEED.

Have you ever practically tested the question, Will 1 lb. of coffee sugar go as far, or further, in feeding bees, as 1 lb. extracted honey?

A CHEERING REPORT.

I started last spring with 10 stands of bees; have devoted $\frac{2}{3}$ of the time of myself and boy to caring for them, making frames, etc. I put in full sheets of comb fdn. on wired frames, and have, as the result of the capital and labor, 40 swarms and 3800 lbs. of honey, worth probably 5c per lb. as it stands. My bees are hybrids—good to work, but heavy on the sting.

ALKALI WATER.

The 5-cent wash-basin we got from you was quite a gem; but our alkali water made black spots all over it in a few days, and would soon have eaten it up. I gave it two coats of paint inside, and now it promises to last a long time. *Moral*—Let those who have alkali water, paint their tin basins, pails, etc.

THE FOUNTAIN PUMP.

Would the fountain pump do for pumping honey from the tank it runs into from the extractor up into a large tank?

ISAAC B. RUMFORD.

Bakersfield, Kern Co., Cal.

Tin, if used for honey alone, will answer almost indefinitely.—Although I have never tried the fountain pump on honey, there can be scarcely a doubt but that it would throw honey. You would need to remove the nozzle, so as to give as large a passage as possible, especially if the honey was thick.

Galvanized iron is not fit to use for any utensil containing food, as has been amply

shown by our back numbers. It was used in England awhile for extractors, but is now, I believe, discarded. Paint, if thoroughly dry, will do no harm.—I have never heard of any book on the cooper trade. Can any of our readers tell us if there is one? One pound of coffee A sugar will go further as a food for bees than 1 lb. of honey, without question; but in feeding the sugar, some of it will be inevitably lost in getting it sealed up in the cells as the honey is, or should be, for winter; therefore I would hardly undertake to sell the honey that we might feed sugar, unless there was at least a little difference in price in favor of the honey.

FEEDING EXTRACTED, TO GET COMB HONEY.

I purchased a lot of extracted honey cheap this summer, and if I can get it into sections I can sell it for three times the price I paid for it. I have been feeding from a milk pan, as per A B C, but they don't take it fast enough—only about 10 lbs. in three days and nights. The ten brood-frames are full and the colony large. When the cover is taken off, I find about two or three quarts of bees clustered on the under side, building comb. These are shaken off, but they all get back inside of 30 minutes. I have tried one frame of sections in the third story, alongside of the pan, but they won't work them; then I tried an empty fourth story, thinking they wouldn't climb to the cover. Well, they didn't for a day or two, but started comb on the side of the third story. This I kept out off, but they finally got up to the cover. Then I filled the fourth story with sections, thinking I could trap them into it; but they couldn't see it, and clustered and commenced building comb underneath the broad frames. Now, what am I to do? I want to get that honey in sections. Well, I will try two more plans, and if they don't work I shall have to give it up unless you can help me out. The honey is white clover, and very thick. The bees are blacks, and so populous that I don't think they could be put into a one-story hive on ten frames. If you can make any suggestions, I wish you would do so.

GEO. H. MCGEE.

Point Marblehead, Ottawa Co., Ohio.

It seems, friend M., you have succeeded nicely, only in this one respect, of having the bees build comb next to their feeder. Our neighbor prevented this one season, by greasing, with tallow, the hive containing the feeder, and the outside of the pan. I think a better way, however, would be to have a box made so as to fill all the space unoccupied with frames of sections, instead of the pan. This box can be coated with wax so it will not leak. Friend B. also used a box fastened to the back part of the hive, with a hole to let the bees through into it; but they commenced to build combs in this box, and he was obliged to grease the sides, and, if I am correct, the float also, before they could be prevented.

HOW OLD MAY A QUEEN BE, AND STILL BECOME FERTILIZED?

I see in GLEANINGS that there has been some query as to how old a queen can be and yet become fertilized, and a good prolific queen. I will give my experience. The 12th day of Jan., 1880, I found queen-cells in a hybrid hive. The queen hatched, and began to lay on about the 10th of Feb.; and,

about the first of March, drones began to hatch, and by the middle of April, worker bees began to hatch. It was a strong hive, but got quite weak. I had to build it up with brood from other hives. It is strong now. Query: Was she fertilized by her own drones, or was it by some others? They were the crossset bees I ever saw or heard of. I was compelled to kill her in August, as the smoker had lost its power of subduing the little de—hybrids.

GEO. W. STEBS.

Spring Station, Ind., Oct. 1, 1880.

I can not think, friend S., that the queen raised in the fall was ever fertilized at all, but that some other queen got in and replaced her in the spring, about the time you found worker eggs in the combs. No instance has ever been reported, of a queen that was raised in the fall being fertilized in the spring; and I am not sure that a queen that began to lay drone eggs was ever after fertilized.

KEEPING BEES FOR FUN.

The queen is introduced and laying. I had a serious time introducing her, and I guess that if I had not been in a hurry she would not have been introduced yet. I got her one week ago to-night. I left her on frames 48 hours, and then tried to introduce her, but it was no go; the bees balled her in less than a minute, and so I took her and put her back in the cage. Twenty-four hours later I tried again, with like results. The bees did not ball her this time, but seemed to be trying to eat her legs off, and so I caged her again and waited 24 hours more, then let her loose on top of the hive. She went down into the hive, but the bees would not let her alone, and so I tried to get hold of her, but she flew away, and was gone about 5 minutes when she came back and went into the hive at the bottom. I left her 5 minutes, then looked her up; but no sooner had I got my eyes on her than she again took wing, and did not come back for half an hour. Then I went away to work. At noon I came home and found her in the hive all right. Thus I have got a queen, and got her into my hive all right; but I never introduced a queen in my life. I do not keep bees for profit. I keep them for fun.

H. M. SMITH.

Frankfort, Mich., June 21, 1880.

DIVERSITY IN THE PRICE OF HONEY IN THE SAME MARKET, ETC.

We had a fair honey season during August and first part of September. Out of one two-story Langstroth hive I extracted four gallons, the same amount I had before from that one hive early in July; six others, double-stories with combs, did nothing during the early season; but I got nine gallons from the six hives the first week in Sept.; fifteen stands I prepared for section and box honey; in the sections I got nothing. They built out the foundation starters only. Five colonies with honey boxes, comb already built in 1878, furnished something over 100 lbs. of nice comb honey. Only three small lots of comb honey came to town this summer for sale; the first, belonging to a Mrs. Zett, had probably 30 or 40 lbs. nice comb; she could get no offer in the groceries, and retailed it in town at 10c per lb. The next lot, in 2 lb. crates, was brought in by a Mr. Wagner. He had nearly 200 lbs. from four hybrid stands. Two of his made nothing. The comb was mostly built last year; he realized 17c per lb. Mr. Nelson, a butcher, sold it for him, who retailed it at 25c per lb. Another lot of comb honey came to Mr. Swain's grocery—I

don't know where from. They retailed it in the grocery at 10c per lb. in chunks. Mr. Swain has some nice-looking honey from the east, in glass sections, at 35c per lb., including wood and glass, but there was little sale for it.

I am not anxious to sell my honey this year—not at such low prices. We can eat it; it is cheaper, healthier, and better than strong store butter, which sells from 18 to 20c per lb., and sometimes scarce at that. Good ripe honey will keep twenty years, and has, like the Irishman's whisky, "nary a bone in it."

I have the same number of colonies I had last spring—22; every one of the lower stories is full of nice capped honey. Not one out of the whole number needs feeding. This is the first time since 1860 that I have not had to feed any at all.

Colonies that are not well supplied yet with honey will suffer this winter; it will be at least 7 months from now before they gather natural stores again; and, if the winter should be very cold, and spring late, it may be longer. GEO. L. HOLLENBACH.

Noblesville, Hamilton Co., Ind., Sept. 25, 1880.

The above illustrates very forcibly the unsettled state of the market for honey. All the way from 10c to 35, and for comb honey too! What is the remedy? I think more thrown on the market would tend to equalize things; and if some one would advertise to buy and sell honey, and take all that was brought in, at some price, and then grade it and put it in nice shape himself, this would fix things. A farmer, a few days ago, said he had some honey, but I told him I did not make a practice of buying it, and that he had better take it to the groceries. He said he preferred to sell it to me, and would take 15c for it in 1-lb. sections. I took it at once, and I shall have no trouble at all in getting 18c from the grocers, as soon as they sell out their present stock. They seem to fail to comprehend that honey does not spoil like butter and eggs, unless sold out immediately. I think, judging from the past, one would be safe in paying 1-c for all such honey that is brought in; and if he retailed it at 20c the year round, the public would have to pay, on an average, just about what they do now, only it would not have so many ups and downs.

"INTEMPERANCE" AMONG BEES, AND THE REMEDY.

Our bees have been working briskly the last three days on buckwheat and aster; and if it continues pleasant another week, I think it will put them in good condition for wintering, though they had a hard time of it last month. They have been taking peach brandy until nearly all the bees that inhabited the hives a month ago have died drunkards. But I am glad the peach crop is over, and my hives are populated (not so densely), but with more healthy bees. When the peaches commenced ripening, my hives were crowded with bees and plenty of brood. I was looking through them to-day, and I find nothing but very young bees in the hives—about one-third of the amount of bees that were there a month ago. My bees were worse on the fruit this year than I ever knew, but they seemed to carry but little into the hives, and now I find the old bees nearly all died off already, and but little brandy in the hives. I hope we shall have but little trouble during winter. I am very fond of the peach fruit, and have a great many trees; but my experience

the last few years has satisfied me that peach-juice is detrimental to bees; when the fruit becomes soft, the bees will collect on it and fill themselves with the brandy until they become drunk, and often remain on it during night. We had several heavy showers of rain during the peach crop, which helped a great many of the little toppers out of the way.

I let the hogs have access to the orchard and the yards; and where they did not get I had the peaches picked up every morning, as many as possible, and fed—thus preventing, to some extent, the bees from gathering on them.

S. VALENTINE.

Double Pipe Creek, Carroll Co., Md., Sept. 17, 1880.

I agree with you, friend V., that fruit seems to be destructive to the bees whenever they work on it, in the way you mention; but surely you can do better with the peaches than to let them rot, or even feed them to the hogs. If you can not sell them in the green state, gather them up, partly rotten ones with the rest, and have them dried. Dried peaches always bring a price that will certainly pay well for the time needed to care for them.

RAGS IMPREGNATED WITH SALTPETER FOR LIGHTING SMOKERS.

Mr. Detweiler, at the Michigan State Fair, showed us one of his own inventions, which seems to be so valuable that all bee-keepers should know it. It is a kind of tinder for lighting the fuel in smokers, made of rags soaked in saltpeter water, and afterward dried. When rags are treated in this way they will light instantly upon being touched by a flame. They do not blaze, but smolder, and will continue to give smoke as long as a vestige of them remains. A piece of rag lighted, and put into the bottom of a smoker, will light the wood better than live coals, and is far more convenient. It is especially good for Simplicity smokers, as a small piece can be pushed into the side-opening.

It seems to me that this idea of Mr. Detweiler's is equal, in its way, to that of his tin rakes to keep sheets of fdn. from sagging. Rags prepared in this way is easily carried in the pocket, and may be used without a smoker, which makes it convenient for use when away from home.

A. B. WEED.

Detroit, Mich., Sept. 21, 1880.

Many thanks, friend W., but the idea is not new. It has been given one or more times, in our back volumes. The writer there advised getting an old worn-out book, of convenient size to put in the pocket; this is to be saturated in the solution, and then opened so as to have the leaves dry. To light a smoker, tear out a leaf; or, if the work to be done requires only a short time, opening a single hive, for instance, a leaf out of the book, placed in the smoker alone, would give all the smoke needed.

The following would have appeared some time ago, but got covered up out of sight in that "great pile of letters" of which I have so often told you.

PARKER'S FOUNDATION FASTENER.

In answer to the question in GLEANINGS, p. 279, June No., concerning the fdn. fastener, I will say that I invented and commenced using it about two years ago. I did not get an electrotype until something over a year ago; it was either Jan. or Feb., 1879, at least. You will find it by referring to the A.

B. J., April No., 1879, p. 150; also May No. of *A. B. J.*, p. 197; also *Bee Instructor*, published by S. D. Riegel, Adelphi, O., in the April No., 1879; and I will further say, I had never seen anything of the kind. When I first thought of some plan to fasten fdn. in boxes, by which it could be done neatly and rapidly, it just came to my mind as many other things have, and I can say I did not even know of similar devices being mentioned in GLEANINGS; for, truth to tell, I never heard of GLEANINGS until about three years ago. If J. L. Lafferty has invented precisely the same thing, it was all unknown to me; but I can prove, by a number of persons here, that I had my machine in use about two years ago; but the first notice of it in print was a little over a year ago. I am quite a hand to think out plans and machinery to work with, and might have had a patent on more than one article, but have never tried to obtain one on anything yet. All I have to say concerning this fastener is, it is my own invention; and I have acquaintances enough here who know it.

W. D. PARKER.

Defiance, O., June 1, 1880.

GRAPE-SUGAR CANDY FOR WINTER.

I see by the May GLEANINGS, that some one complains that bees won't touch your grape-sugar candy, and you say they ought to have got a small 10c tray first and tried it. I got a tray of you, and put on top of frames of my best Italians, covered with a quilt, and kept it there all winter. "Nary an eat" did they take; but I made a few pounds and put on top of the frames. One colony ate nearly a 4-lb. tray; another about a third of one, and another starved with a 4-lb. tray, their honey having just run out.

WINTERING SUCCESSFULLY WITHOUT CARE.

A neighbor has 20 swarms in old box hives—cracked, warped, and rough as can be. He has not lost any for three years, and they are all in a row out under lee of a rail fence all winter, part on a bench, part on bricks, part on the others, and all neglected. How is that for chaff or winter protection or cellar-ing?

I have just transferred my only box hive to a Simplicity.

B. S. BINNEY.

Shirley, Mass., May 26, 1880.

It is a little singular, that the colony did not use up the small sample tray at all; I can account for it only by thinking the little sample had got so dry and hard they did not discover what it was. Although bees do sometimes seem to entirely neglect candy made of cane sugar, they are not quite as apt to as they are the grape-sugar candy. In giving it to a stock for the first time, I would look after them a little until they get started on it, and really know what it is. There is always a liability to failure in this way, with any kind of candy stores in winter, and I would therefore strongly recommend the bees being fed up to good condition before real cold weather comes on us. The 20 colonies that all lived through in the old and broken box hives, were probably in old, tough warm combs, and with plenty of sealed stores, gathered in the early part of the season. While such a case may be occasionally found in almost every neighborhood, taking the country at large we find that box hives with no care have perished at a fearful rate within the last few years—so much so, that thousands who once kept bees are now out of the business entirely. Here is a good re-

port from an unprotected Simplicity hive; but I would by no means think of advising one to try to winter in that way:

WINTERING IN AN UNPROTECTED SIMPLICITY HIVE.

Hurrah for the first swarm! To-day, May 15th, the first swarm in this season came out of a Simplicity hive, that had very little protection during last winter. It was not fed, and had no other help whatever. It had its own way. So, the Simplicity hive beats the chaff hives by giving the first swarm. It is the first swarm around this neighborhood, and, perhaps, in Michigan.

OTTO KLEINOW.

Detroit, Mich., May 21, 1880.

BEEES IN TENNESSEE.

"Robbing time" commences about June 1st with us down here. We all use the old gum, or box hive; keep the native black or brown bees. I have kept bees more than 10 years, and have a large acquaintance, but never saw a colony of Italians nor a bee-smoker, and but one frame hive, and that my own make. This might be a great bee country. Most well-to-do folks keep a few hives; give them but little attention, and get a similar return. Probably the worst hindrance to bee culture here is, ignorance of the business, carelessness, bee-moth, winter-kill, or freeze, and starving. But yet, my bees are a source of pleasure and profit to me.

GAUIS BRANSON.

Clear Springs, Grainger Co., Tenn., May 17, 1880.

HONEY FROM THE WHITEWOOD.

I send you a sample of crystallized poplar or white-wood honey, all taken from one blossom dried on the tree. Whether any had been sipped by insects, I can't say. It was about an average of the many I examined from various trees. The bloom appears about the first of May, and continues from two to four weeks. The honey is very thick, and, to my taste, superior to white clover. Now, what does your Simpson, or Spider, or even Century plant, bearing its half-gallon of honey, amount to when compared with the stately and far-famed poplar of South-Central Indiana? A single tree may yield its whole gallons of honey yearly for ages (I have no trees for sale), and in old age yield its body for \$5.00 to \$50. Teach us how to have our colonies strong the first of May, and we will astonish the world by our crops of honey.

JOE A. BURTON.

Mitchell, Lawrence Co., Ind.

I think the sample of honey with the above letter never came to hand; but, friend B., I tell you, honey don't get a chance to dry down and crystallize in the blossom, in our whitewood trees; on the contrary, a bee will station himself by a bud the night before so as to be on hand when it opens, before the rest get there. I am not sure they do it with the whitewood trees, it is true, but that is the way some of them seem to manage with the Simpson and Spider plants.

We have an abundance of white clover, and a great deal of small fruits; but bees find rather scarce pasture after white clover disappears. Plenty of goldenrod; do the bees get any honey from it? I want to keep about a hundred stocks at this point for honey. I have the Simpson plant, late variety coming on, and I wish to transplant as soon as they are ready. About how large should they be before transplanting? Some are just coming through the ground. Can I successfully transplant them this

season? What do you think of one acre of the above plant to carry through one hundred stocks after white clover till frost, counting some on buckwheat? My object is surplus honey. WM. M. YOUNG.

Nevada, Wyandott Co., O., May 24, 1880.

Spider plants should be about as large as cabbage-plants to transplant nicely; transplant at any time during wet, cloudy weather. I think it will take about 10 acres, instead of one, for 100 colonies.

ARTESIAN WELLS.

Please tell us or give us some information in GLEANINGS about your Artesian well; how deep it is, size of bore, and how much water runs out of it, and whether it throws water higher than the surface of the ground. SAMUEL KEAGY.

Maria, Bedford Co., Pa., May 25, 1880.

Well, friend K., it does not even carry the water to the surface of the ground. You see, we ran short of water, and had quite a time to get enough to keep our works agoing, and so I told the boys and girls one noon that we would have to ask God to bless our efforts in obtaining water. We kept on drilling until the well was over 100 ft. deep, but still the water would not hold out until night. Some of them suggested that God had not answered my prayer. I told them I thought he had, and that the fault was in some way ours. Finally, we ran a pipe clear to the bottom of the well, with a pump-rod inside of it, and had the pump-cylinder clear down to the bottom. Now we have an abundance of water, even during the driest times. God does not see fit to bring the things we ask for right to our feet, but we must get up and go after them, as well as pray. The well, 3 inches in diameter, was drilled into the rock, and the pump and tubing are only about 2½ inches in the largest place outside.

PLAYING OF THE YOUNG BEES.

I have purchased a few colonies of bees. One day they all seemed to be crazy. Those coming in with pollen would immediately turn and come out, run all round the entrance, and even on top of the hive. The neighbors said they thought perhaps there were millers in the comb. I thought a little about it, and then referred to the A B C, and there I found it all plainly, it being the young bees coming in with their first load, being exactly the way you describe it; and, as they have all sobered down, I concluded that was it. C. S. BURKE.

Batavia, Genesee Co., N. Y., May 3, 1880.

Notes and Queries.

HOW EASY IT IS TO BE MISTAKEN.

I WENT through that box again, and, sure enough, there was the cant file. I hate to admit I was so careless, but such was the case. There were three of us looking too. M. H. HUNT.

May 13, 1880.

I have introduced 18 queens in the last 30 days, and have not lost any. Have none balled.

A. A. SWINGLE.

Hancock, Washington Co., Md., Sept. 28, 1880.

FIRST PREMIUM, TO UNGLASSSED SECTIONS.

First premium (\$25.00) for best 25 lbs. of comb honey at the Kansas State Fair this fall, was awarded to

"your humble servant." Honey was in 1-lb. sections of pine, without glass. Second-premium honey was in whitewood sections, glassed on two sides. All basswood honey in both lots. JAMES A. NELSON.

Wyandott, Kan., Oct. 7, 1880.

GOOD FOR THE CYPRIANS.

The two Cyprians are clinkers on a nest. The Yankee hen's-nest that caused the hen to lay herself all away but feathers is nothing compared to the first Cyprian queen—3200 eggs in 24 hours, by actual count. How is this for high in the young foreign "mistress"? B. F. CARROLL.

Dresden, Navarro Co., Texas, Sept. 23, 1880.

FOUL BROOD CONTRACTED BY BUYING COMBS.

In buying comb of different parties, am I liable to introduce foul brood in my apiary? M. ISBELL.

Norwich, Chenango Co., N. Y., Sept. 28, 1880.

[To be sure, friend I, if you buy combs of anybody who has had foul brood in his apiary. In these days of fdm., I should hardly think it would pay to buy combs.]

FOUL BROOD.

Bees have done well this year in Texas, but I have a bad report to make for myself. I lost all my bees last year by foul brood. I started anew last winter, and now I have 40 or 50 stands ruined by it again. This is too bad, isn't it? I am glad to say, that, as far as I know, there is not a case in Texas, except in and around Dallas. F. F. COLLINS.

Houston, Texas, Sept. 29, 1880.

FROM 1 TO 41 IN TWO SEASONS.

Two years ago this fall I bought a hive of bees in the box hive, and now I have 41 colonies in L. hives. I sold 31 queens this summer. Now, if you can beat this, I should like to hear it. Honey crop was very poor here this summer. E. CORLETT.

Cumminsville, Canada, Sept. 27, 1880.

[Very well done, friend C. As you do not give us any particulars, we shall have to conclude you increased the one to about 6 or 7, the first season, and from the 6 or 7 made 41. That is a pretty good report, but not above what may be done by one who tries, in a fair locality. But I presume, of course, friend C., you not only got no honey, but likely fed considerable sugar.]

INK BY MAIL FOR 25c. PER GALLON.

I would like to have you try my ink-powders. They are put up in 25c packages, each package containing enough to make 1 gallon of the best black ink. This letter is written with the ink made from the powders. WILLIAM ELLWOOD.

Rome, Oneida Co., N. Y., Sept. 16, 1880.

PREMIUM BLACK INK-POWDERS.

Directions: Dissolve contents of paper in one gallon soft water; boil slightly, or simmer in an iron vessel 15 minutes, stir the liquid a few minutes while over the fire, take off, and when settled, strain twice through common muslin or sheeting cloth. The above is a jet black from the first, flows beautifully from the pen, and is so indelible that even oxalic acid will not remove it from the paper. WILLIAM ELLWOOD.

Rome, N. Y.

[Of course, we made a trial of the package, and, sure enough, it makes a beautiful jet-black ink, and we have introduced it on our 5 and 25c. counters. That it can be sent by mail, and thus save the great expense of shipment, is a great advantage. The ink is of a jet black when first written, and our clerks say they can discover little difference between it and Oldroyd's, except that it dries up and clogs the pen more. This would be likely to be the case with any ink that has water only for the liquid portion of it.]

RED BUD, OR JUDAS-TREE.

I can furnish 4 or 5 red bud, or Judas-trees, to any of our bee friends, or lovers of a fine ornamental flowering tree, and that will furnish an abundance of nectar in April.

J. B. MURRAY.

Ada, Ohio, Oct. 3, 1880.

VIALON'S CANDY FOR QUEENS: MUST IT BE FRESHLY MADE?

I was sick when the Sept. No. reached me, and therefore did not answer [See page 427.] Yes, I have sent queens with as good success with candy one month old. I have no doubt that coffee A sugar would do as well, as the quality is due to the flour and honey, as far as I can see.

P. VIALON.

Bayou Goula, La., Sept. 24, 1880.

I lost a large swarm of Italians last week, by not being a subscriber to GLEANINGS. Papa says "we boys" don't know all about bees, and so we want your journal.

KENNARD SHAW.

Loreauville, La., Sept. 23, 1880.

It is rather late to Italianize this fall; but if I should conclude to do so in the spring, could I not give the old stocks dollar queens after the first swarm has left? Would they not push ahead faster than those that reared queens from the egg? [It would certainly save some time.] My bees gave me 40 lbs. of honey per colony this year, the most of it being from buckwheat. I take GLEANINGS, and like it very much. I for one would be willing to pay 25c more per year for the cartoons and pictures of different apiaries.

FRANK P. GREINER.

Hanover, Jackson Co., Mich., Oct. 9, 1880.

Hundreds of colonies of bees have died here this summer among the natives. No honey, and hot, burning hot, winds are causes.

"The Cyprus Apiary."

FRANK BENTON.

Larnaca, Cyprus, Aug. 31, 1880.

[Friend Jones, when here, pulled a postal out of his pocket containing the above, which would seem to indicate that they have blasted hopes in other places as well as here.]

Is it necessary to give more space between the bottom of the frames in the L. hive and bottom board in winter, to allow better circulation of air, and prevent the entrance from being clogged?

WM. WAKEFIELD.

St. Paul, Minn., Oct. 13, 1880.

[I do not think it will be necessary to give more space, in any hive, if it is properly looked to; and if you use a good chaff hive, you will have no dead bees on the bottom-board at all—much less, in the entrance.]

QUALITY OF HONEY FROM COTTON.

I took a frame of sealed honey from a hive yesterday, and on tasting it, I found it had a *very* bad flavor. It tasted something like cotton-seed, which led me to believe that it was from the cotton-blossoms. Please inquire into this, and see if cotton does make such honey.

D. S. BETHUNE.

Snyder, Ark., Sept. 17, 1880.

DARK FDN. FOR THE BROOD CHAMBER.

Please send me 25 lbs. of fdn., size for brood chamber, to be used without wires. I don't care if it is dark, for such was the color of the last 25 lbs. you sent me; and if it works like that, there is no use in fussing with wires. I told some of it, and they all say the same of it.

A. SCHNEIDER.

Louisville, Ky., Sept. 27, 1880.

DEPOSITORY OF
Blasted Hopes,

Or Letters from Those Who Have Made
Bee Culture a Failure.

FROM 130 stands, we will not get 400 lbs., and don't expect to carry half of them through the winter, unless they are fed. No swarms this year—not one. This is the first failure I have had since I have been keeping bees—28 years, and it *does* surely pinch.

H. W. WHITE.

Broad Run Station, Fauquier Co., Va., Oct. 11, '80.

I began in the spring with 4 colonies, and those badly demoralized by moths. I now have 7, 5 of which are in chaff hives of your pattern. I have engaged 15 stands in box hives, all blacks.

The honey got thus far has cost *five dollars* per lb. or very near it; but it is my fault, for we furnished the bees nothing to work on during the dry weather, which we should have been prepared for. The Simpson plants grow here by the million in our fence-corners, groves, and woods, and the bees are busy on them and Spanish needles all day.

LEE WARNER.

Allison, Lawrence Co., Ill., Sept. 28, 1880.

You do not say, friend W., that your hopes are blasted, but I rather think mine would be if my money cost me the price you name. This happens, too, where Simpson plants grow by the million. I don't believe I would invest in those 15 stocks if I were you; not, at least, until I had made what I have do a little better. If you can not make one or two pay expenses, I feel pretty sure you will not do better with a larger number.

This has been a very poor season here for bees. I have about 50 colonies, and won't get 300 lbs. of honey. The greater part have enough to winter on. The nights have been too cool or wet.

T. S. HOLSINGER.

Six Roads, Bedford Co., Pa., Sept. 22, 1880.

It looks bad for a man who has plenty of bees to buy honey, but my bees have done no good for this two years. I will have to feed them to get them through this winter, and I think I will quit the bee business, so you can put me in the Blasted Hopes if you choose.

J. F. ROSS.

Simpson Sta., W. Va., Oct. 2, 1880.

I sold my bees some time ago. They didn't like my way of doing business, and I didn't like theirs, and so we dissolved copartnership. I did it unwillingly though. *I can see a great deal better now.*

Atlanta, Ga., Oct. 8, 1880.

H. J. BAKER.

My report for this year is like a great many others'—very poor. I took 60 colonies of bees on shares this spring. I had 20 of my own. From the 80 I did not get over 150 lbs. of surplus honey. We had plenty of white clover, basswood, and other honey-plants. I think the cool nights in June and July were the cause of the failure, the honey not secreting in the bloom. I noticed, after a warm, balmy night, the bees stored more honey.

J. H. THORNBURG.

Winchester, Rand. Co., Ind., Sept. 28, 1880.

Our Homes.

And the lord said unto the servant, Go out into the highways and hedges, and compel them to come in, that my house may be full.—LUKE XIV. 23.

SOMEbody told me that my class in the jail had had quite an increase. I found them to be mostly young men, and, to my surprise, they were rather more intelligent, and better educated, than those I generally met. Intemperance was, either directly or indirectly, the cause of the greater part of them getting in. One, I was told, was a printer, and that he had, in times past, conducted a newspaper. I opened the Bible, as usual, and asked them, one after another, what their feelings were in regard to the book. The most of them believed in a part of it; but the greater part of them dwelt upon the sins of professing Christians. During the talk, the newspaper man, whom I will call M., asked permission to propound a question. Of course, I told him my greatest wish was to have the class ask questions, and to state to me frankly their difficulties in accepting this book as the word of God.

"Mr. Root, you say that God created us all?"

"Most certainly."

"And that he knows every thing, past as well as future?"

"I believe that is the orthodox understanding of the matter."

"Well, now, Mr. R., is it consistent with your ideas of a just God, that he created a part of us, knowing, at the time he did it, that we should go down to endless ruin and everlasting punishment?"

"My friend, you have struck on a point that, in one sense, may be beyond man's comprehension. In presuming to dictate to the Almighty what he should or should not do, we are taking a great responsibility on our hands. If I should ask you whether you believed space extends without limit, filled with worlds like ours, or that there is an outside to it, you would be compelled to decline answering either way. Such questions we often have to give up helplessly. The part of your question that concerns you and I, however, we can answer easily. If you, by drink or crime, sink yourself into disgrace and a drunkard's grave, is the fault yours or God's?"

He answered promptly, as did all the rest, if I remember rightly, that the fault would be theirs.

"You are sure of this, boys?"

"Yes, sir!"

"All right; now please remember it, and in any of our future talks, please do not go back on it."

After some further talk in that line, I obtained their permission to kneel with them in prayer, and they all knelt down with me. We had many talks of this nature. One Sabbath one of them asked me why it was that he was not as well satisfied of a future state of existence, and that God cared for him, whether he went right or wrong, as I was.

"My friend, have you ever asked God to give you this evidence?"

"I do not know that I ever have."

"Well, when you are alone, kneel down and tell him, as you have told me, that you wish to know of his loving-kindness for you, and you shall have evidence. But remember also, that, 'if any man will do his will, he shall know of the doctrine, whether it be of God, or whether I speak of myself.'"

Weeks passed. Some Sundays I felt much encouraged with the work, and at other times it seemed as if my words were all misdirected zeal. One Sabbath morning, several teachers in our Sabbath-school came to me, saying they felt that somebody else would do better with their classes, for they felt sure they were not doing them the good they ought to have. I told them that, on that principle, I should like to resign also, and that we had better give up the whole institution, and not have any Sunday-school at all. As they laughed at this aspect of affairs, I told them I felt rather they were the ones exactly, for they had shown me how anxious they were for the salvation of the souls intrusted to their care. They promised to go on; but still, it cast a gloom over my spirits. I went to the jail in the afternoon, feeling somewhat despondent, but praying hard that God would give me some evidence that my hard work during these busy Sundays was not in vain.

As the most of the boys had sinned in the way of intemperance, I exhorted them in that direction, and told them pretty plainly where their lives were tending. M. finally said he was not going to drink any more. They almost always said this, and I therefore did not think much about it. I talked with him about his past life, of his father and mother, and finally asked him if he had any objection to putting down, in writing, his resolution in regard to the use of intoxicating drinks. He said he had not.

"M., have you ever before signed a pledge?"

"I never have. I have always talked against it, and I have never in my life, until my confinement here, thought of doing such a thing. I have always taken the ground, that any man that could not break off when he had a desire to, did not possess much self-will; but now I am willing to sign a pledge."

"And you are willing to ask God to help you?"

"I am."

You can see, my friends, that I am not very fast about urging people to sign pledges, unless I can see something to indicate that it will be a thorough work. He took the pen and rapidly wrote, in a fair hand, the following:

With my mind firmly made up, and by and with the help of Almighty God, I do hereby pledge myself to in future abstain from the use of all intoxicating liquors, either malt, spirituous or vinous, and to do all I can to induce others so to do.

[Signed]

[Signed]

Medina, O., Sunday, Oct. 3, 1880, 3:25 P. M.

The last name was that of an old gray-haired man, who was in for the second time in a few weeks, for the offense of intemper-

ance. I had had some very frank, friendly talks with him, and he recognized that it was almost his only hope. There was at this time only one more inmate of the jail; and, although the paper was offered him to sign too, he declined. Before I went away, M. expressed a wish to see our minister. I promised to have him come, and went away happy, feeling that my prayer was answered. I met our pastor afterward, and he agreed with me in thinking M. was almost on the point of accepting Christ as his Savior. Another Sabbath came, and I found, on going to the jail, that M. was out, and another young man in his place. Very soon one of them began to laugh at me about M.'s pledge.

"What about M.'s pledge, boys? is it not all right?"

"Right! He broke it the minute he got out."

"And he borrowed my hat," exclaimed the new comer, "so that he might make a respectable appearance in the court-room, and he has left town with that too."

I tried to beg a little charity for him, and to suggest that he would return the hat. But, I confess my faith in him and in humanity took a considerable fall. I began to feel that it is in reality a terrible thing to get once into the service of Satan, and to look back through the years to see how many there were who had started, and who had never for one instant turned back. O Lord, have mercy on poor, weak humanity! I was thinking of his solemn oath, and how sure I was that he would keep it.

"Mr. Root, do you not think it was better that I did not sign that pledge?" said one of the men; and I was aroused to the thoughts of those still in jail.

"It was better, Mr. H., that you did not sign it, if you were going to break it; but, my friend, would it not have been far better still, had you signed it and kept it?"

So, poor M., with his bright, hopeful face, is gone, after all, was my thought, as, with a heavy heart, I went away. But the week before I had felt so sorry for him that I had been planning to carry a case and some type to him, that he might pass the time more tolerably, while in confinement. It was all over now.

The next morning, while working here at my type-writer, I was surprised by our pastor.

"Mr. Root, we must do something for M."

"Why, he has broken his pledge, and there is nothing we can do."

"But we must pull him away from his present associates,—get him work, and make him keep it."

I looked up into his bright, hopeful eye, and took courage at once.

"Can you not give him work, and keep him here among you?"

"Why, I have all the printers I can possibly use; but, I will go with you and see what can be done."

As we walked up street, I unburdened myself, as it were, and told him how discouraged I was, but added:

"My friend, I will confide to you, that I will set M. to work, or any other boy or girl, man or woman, who will kneel down with

me and ask God to help us and them to lead a thorough, consistent Christian life afterward. I have always done this, and I have never yet failed in finding work. But in this case, our friend has not even promised to be a Christian, but, on the contrary, has seemingly gone the other way. Those whom I have helped have come to me, and I must confess I have very little faith in going after him."

"Perhaps you are right; but when I met him this morning, he looked so bad I felt that I could not pass him by. In answer to my questions, he said he had fared badly since his release."

We did not find him, and I undertook the task alone. I went into all the places where I thought he might possibly be; but, although they said he had been around, I did not find him. On the way home, however, I caught sight of him in one of our livery stables. He went at once with me to our minister's, and we had a long talk. He at first seemed inclined to excuse himself by saying he had drank only beer and cider; but when he was reminded that it was before God he was to be held accountable, and that God, and God only, was to judge him, he was silent. I told him that it seemed to me that the decisive point in his life had arrived, and it was in *his* power, and his alone, to decide whether he would serve God or Satan. After some time, apparently spent in considering the subject, he declared it as his intention to be a Christian if it were possible for him to be. When asked if he would kneel with us in prayer, he expressed himself as willing. I led, and our pastor asked him to follow. After a short interval he commenced, but almost immediately broke down, and the sobs that convulsed his frame for the time rendered it almost impossible for him to utter another word. At length, in broken sentences, he implored God to forgive him for his hitherto broken and wasted life; and there on his knees he virtually accepted Jesus as his Savior.

As he arose, I took him by the hand, and told him I was now ready to give him work, and, although I had nothing in view for him to do, I knew God would help us both if we came to him in that attitude.

"Friend M.," said I, "you have started out right; but you now come face to face with real trials. You have resolved to live the life of a Christian; but what price are you willing to pay for a pure Christian life? How much can you endure, and how much will you give up for Christ's sake?"

"Why, I will give up everything; what is it?"

"You use tobacco, do you not?"

"Yes; I have used it almost all my life."

"The conditions of our establishment are, that no one shall be employed who uses tobacco. I feel sorry, Friend M., to ask so much of one who is just starting out, and the thought of it was troubling me while we knelt in prayer; but, to do justice to the others who are there at work, I see no way in which you can be spared this trial at the very outset, at it were. God knows I would excuse you if I could consistently, or that I would bear the fearful trial myself if I

could; but I see no escape. My own brother's boy I was compelled to let go, because we could not think alike on this very point. I mention this to you, that you may know what a vital point among my boys I feel it to be."

"If I give up tobacco I shall be so nervous it will be almost impossible for me to set type at all; but I will try."

As he said this, there shone from his face a determination of purpose that gave me much hope. The minister told him God would help him over the nervousness, and that we would all pray for him. He remained there to dinner, while I went back to my work, to find our boys out of copy, and many things needing me sadly; but I felt sure God would help me to bring it all out right when I had been absent on such an errand.

It may be well to remark here, that M. had been falsely imprisoned. When he told me in the jail he had been put there through spite-work, he was right; but I had heard the story so much that I gave little credit to it. After being kept there 56 days he was tried by a jury of his peers and discharged, because they could find nothing against him. He was charged with forgery; but when the charge failed to be substantiated, our laws opened his prison-door and set him free; but not one word of apology did the law tender him,—no recompense did it offer for the time lost, and none for a tarnished name.

In the afternoon he came down and went to work. It was very soon evident that no such skill had ever before been in our composing-room. The very first whole day he set about 10,000 ems; and, at the rate we pay, 25 cents per thousand, he was placed in a position where he could soon retrieve, in a financial point of view, what he had lost by his incarceration in prison. In the evening I asked him how he got along without tobacco. He told me that when he got so nervous he could not work, he went over to his room and prayed for strength, and that it always came. Not without some suffering, though, dear boys; for, besides the praying, he said he chewed up nearly the whole of an old leather pocket-book by tearing off little pieces.

Said my nephew, young Gray, the boy who is crazy on microscopes and electricity, "Uncle Ame, how are you going to keep M. at work, if he sets type every day like that?"

"We are going to ask God to give us something to do, George."

George has a very practical way of looking at all these things; and, although he is, I am sure, deeply interested in all my efforts to reform humanity, he likes to see some kind of a chance for the prayers to be answered. I am glad he does, for I like to be watched; and I like to have the closest scrutiny applied, to see whether God's promises are sure or not.

"But you will have to get something pretty quick. The journal will be all done, and there will be no more type."

George was right. He who asks God to help must expect to work, both with hands and brain, and to endure trial and fatigue,

that he perhaps would not have without calling on God for help.

"George, I do not know how long M. is going to hold out; but if he keeps on in this way, looking to God for help in every trial that comes up in his new life, there will be no trouble at all in giving him plenty to do. A thousand places will be open to him, and thousands, like him, are wanted every day of our lives. The demand for such men is, and always has been, far beyond the supply."

How is it, boys? Are men plenty, who live constantly in the fear of God, and who can also set over 10,000 ems a day?

This question soon came pretty squarely before me: Was I right in what I said to our minister as we walked up the street? Would I always be able to give employment to all who should come to me with faith in God and zeal for work? As I have so often before, I took the whole matter to my heavenly Father, and asked him to tell my friend and I what we should do. The answer, as it seemed to me, was, that I should gather up the leaves of the old Home Papers, and put them into the book I have so long talked about, and that M. should set the type. The idea is already under way; and, my friends, will you not breathe a prayer to God as your eyes rest on these words, that he may hold out and not be drawn back again into the toils of Satan? *It is his hand that is setting the letters, one by one in their places, for the very words your eyes are resting on this moment.*

The question comes up: When he got out of jail, why did he not come at once to myself or to the minister, and get assistance before breaking his pledge? He did promise me to come and see me as soon as he got out; but he said everybody seemed so prone to consider him a jail-bird, and to be so sure that he must be at least somewhat guilty, that he became discouraged, and concluded that his presence would be a disgrace to either of us. Every one turned a cold shoulder to him, he imagined, and so discouraged, he gave up, little caring what would become of him. He would undoubtedly have kept on his downward course, had not the minister come to me that Monday morning and plead so earnestly for him.

There are crises in the lives of almost all of us. Do we, as Christian people, keep our eyes open to see when circumstances places it in our power to lend a helping hand just at that all-important time? M. now says, that, in one sense, it was the best thing that ever happened to him,—his being sent to jail. Almost the very day he chose to put his trust in his Savior, the man who was instrumental in getting him imprisoned was arrested for drawing a revolver on another man, and would have gone to jail had not friends come to his rescue. My friends, there is a God above who hears even the ravens' cry, and who, in his own good time, administers justice.

Conversion in the human heart has always been an interesting subject with me. The question during revival times is often asked if anybody can be a Christian who wants to. I should say, most decidedly, yes! In M.'s case, it seemed as if he had

come to a point where two roads diverged. Which should he take? We talked with him until it was evident that he clearly understood what would be demanded of him if he chose to lead a Christian life. So far as I could tell, from outward appearances, he simply chose the right path, and then went ahead, no matter whether he felt like it or not. I tell you, my friends, this is the kind of religion we want to encourage. Ask God to help you choose the path of wisdom, and then work and push ahead, no matter how you feel. In due time you will feel God's approving presence if you only endure and hold out. I did not notice that M. felt particularly happy until the following Thursday evening, when he for the first time stood up and publicly declared that he was going to try to lead a Christian life. As he sat down, I saw he looked happy.

After we got back he said,—

"Why, Mr. Root, was that not a nice meeting? What real nice boys and girls those were! Why, it was just a pleasure to be there. I declare, it has been one of the happiest evenings I ever spent in my life."

Again he spoke of the minister and his wife. He had stayed with them over night, and had been there almost every evening since he had entered upon his new life. Said he,—

"If ever God created two good people, in every sense of the word, those two people are Mr. and Mrs. Ryder. Why, I tell you it is worth more than one can tell to have two such people for your friends."

I may not have got just the exact words; but the idea I wish to bring out is, that a new-born soul begins straightway to see the good there is in other people. But a few days before, these boys in jail had been ever ready to see the mistakes in others first. In truth, after thinking everybody had turned against him, M. found friends everywhere. People stopped him on the streets, and told him they rejoiced to hear of his new stand in life, and those, too, who professed to be skeptics and infidels. This kind of religion is always approved of by all classes. Some one did, it is true, tell him they heard he had "got religion;" but, if I am correct, he replied pleasantly that he "hoped he had."

Now, in regard to that book. How do I know it will pay? How do I know I shall not waste a great deal of money in making a book, and then not have it sell, after all? I do not know; and, in fact, I do not know how a great many of my ventures will turn out. But God knows; and, while I am going to him in earnest prayer, and working hard, and, as I think, disinterestedly, I do not believe he will let me make very bad mistakes. I am sure he is in sympathy, both with M.'s efforts and my own, and I therefore expect him to move the people to buy our little book. While I have this faith, I also expect to try, in every way in my power, to make the book pretty, useful, and attractive. The friend who made and engraved the beautiful design for the cover, and chose the text at the top, is one who has faith in prayer, and I have prayed he might make a pleasing and attractive cover, and asked him to do the

same. If I am going to ask God to bless the work, I can not consistently charge a very large profit, and so we have fixed the price at 10c. I was going to try it at 5c., like the 5-cent Sunday-school books; but I found that if I did so, I should be obliged to use cheap paper and ink. I like nice books, and nice ink and paper; do not you? I look at it a little this way:—

One Sunday afternoon I asked Mr. Reed, my former pastor, to go with me to my class in the infirmary. By some means I was disappointed, and had to take an old rickety buggy that looked rather shabby. I apologized to him, but at the same time asked him if it was not right that we should, when out on our mission work, desire to go at least well dressed and respectably equipped.

"It is right, Mr. Root. As a rule, the people in the jail or the infirmary will have more respect for us, and we shall be more likely to do them good if we go well clothed, with neatly blackened boots or shoes, and with a clean, respectable-looking horse and buggy."

The above may not have been his words, but it was the substance of them. Now, is it not so with books? I do not wear a gold chain, nor any jewelry, and probably never shall; but I do like to be dressed well—not expensively, necessarily, but I want my clothes to fit well, and not to be so much worn as to be seedy, especially on the Sabbath day. Yes, I should want them paid for. If they were not, I would rather have the seedy ones; but I would work awful hard to get some paid for, I tell you.

About the inside of the book? Well, I will tell you. When I started to try to be a Christian, it was a pretty great change in my life, and I thought that if the Bible was true at all, it was all true, and so I began testing its promises. Very soon I started a religious department in our bee journal, GLEANINGS; but, somewhat to my surprise and discomfiture, I was told by some of my very best friends that the thing would be eccentric and out of place; that I would do more harm than good by such an unusual proceeding. Although I felt the weight of this, still, it seemed to me that God said, "Go on." So I went on, and my little journal arose, until it has now over 5,000 subscribers, and that, too, in spite of the religious department.

When you begin to read the book, you can, if you note, see that I was a little unsettled at first as to what my precise work was to be; but I trusted in God, and I think I did not make any very great mistakes. You will note that I did not at first choose a Bible text to open my chapters. The reason was, that I knew very little about the Bible. I remembered, indeed, the texts I had learned in early days at Sabbath-school, and you will see that I used these pretty freely. As I have been reading these papers over, and preparing them for print, it has more than once seemed like a piece of foolishness to think of putting them into a book; but, for all that, I think I can see where the Spirit of God was guiding me, even if some of my illustrations are homely. As God often chooses the weak things of this earth to con-

found the mighty, I feel hopeful that he may make use of these papers; and, to tell the truth, I have felt several times, in reading them recently, that the lessons were exactly what I need now, if I have grown considerably in Bible knowledge and wisdom since they were written. Dear reader, may God bless them and you, as you follow over the pages!

In my talk about watering-troughs, etc., last month, I came pretty close to the subject of cruelty to animals. You will perhaps notice, that I called ministering to the wants of these dumb friends of ours, just as much God's work as helping along a Sunday-school. Well, I have several times spoken of a brother of mine in San Diego, Cal. This brother does not exactly agree with my views of prayer, etc.; but of late, by some queer freak, (or was it because his old mother here at home has been praying for him so earnestly?) he has shown great zeal in the work mentioned; and I know by his letters, and the notices of the work in the papers, that his life is not only made happier by it, but that it will eventually lead him to the gates of the eternal city, if he follows the Spirit that is calling him, and accepts the Savior when he reveals himself, as he certainly will very soon.

[San Diego Union, July 30, 1880.]

When the local Society for the Prevention of Cruelty to Animals was formed in this city, Mr. Root, the President, forwarded a copy of its adopted Constitution and by-laws to Henry Bergh, the founder of the first and original society in New York City, and in reply has received the following interesting autograph letter from Mr. Bergh, which we are permitted to copy:

NEW YORK, July 13, 1880.

M. S. ROOT, Esq.—Dear Sir: I have before me a copy of the by-laws of the society of which you are the honored President; and I can not but reflect on what a glorious work has been accomplished by the right-thinking and humane people of our country during the past twelve years. But a few years ago civilization was comparatively unknown in the now great State of California—the Indian and the hunter being its only inhabitants until the schoolmaster, the mechanic, the scientist, the clergyman, the merchant, and last—but most important—came the humanitarian; and now, at this early period of its history as a State, it can boast of several institutions whose moral influence is gradually spreading over the great Southwest. Situated as you are on the borders of Mexico, the humanizing work in which you are engaged can not fail to attract the attention of the citizens of that country, who have the moral civilization and well-being of their fellow-countrymen in view, and may be the incentive to the organizing of humane societies similar to your own.

To labor in the education of public sentiment of humanity and gentleness toward God's inferior creation, is a labor of love, and commends itself to all having the future prosperity of their country at heart. The Pacific Slope is nobly represented in the merciful confederation, and I venture to predict that ere long not a State or Territory of our beloved land but will have declared through their legislatures that cruelty to animals is a crime, with punishment to offenders found violating humane enactments. With great respect, HENRY BERGH.
President American Society for the Prevention of Cruelty to Animals.

I want to say a word in regard to the subject of prayer; and especially would I call attention to the remarks about the Lord not helping a lazy man. Now, it seems to me the position is just this: if a man is too lazy to help himself, he can not pray; for prayer is not the mere repetition of words, but the earnest desire of the soul; and I think an earnest desire of the soul for anything will naturally be coupled with an earnest effort to get it; and if the

man is too lazy to exert himself, he will be incapable of having an earnest desire, and therefore he may have a desire, but no prayer.

Bakersfield, Kern Co., Cal. ISAAC B. RUMFORD.

I have just had a card from poor, sick Mrs. B., the insane woman of GLEANINGS. She says she has been very sick, and is still confined to her bed. I have also a letter from Brother Mathews, who is still very enthusiastic in his prison work. He says he wants more reading matter; all he can get he can use to good advantage. He would like the papers sent him by mail, as the express companies complain of being burdened. If enough for a box, it can be sent him free, by freight, if he is notified.

MRS. S. J. W. AXTELL.

Roseville, Ill., Sept. 1, 1893.

Let us remember brother Mathews and his work, by saving and sending him papers; and let us remember poor, afflicted sister B. in our prayers. Remember that not a sparrow falls without God's notice, and that we are of more value in his eyes than many sparrows.

Here is a short poem which I found in the *Youth's Companion*, and I like it so well that I thought I would send it to you for Our Homes:

PRAY.

Be not afraid to pray: to pray is right.
Pray, if thou canst, with hope; but never pray,
Though hope be weak, or sick with long delay.
Pray in the darkness, if there be no light:
Far is the time, remote from human sight,
When war and discord on the earth shall cease;
Yet every prayer for universal peace
Averts the blessed time to come.
Whatever is good to wish, ask that of Heaven,
Though it be what thou canst not hope to see.
Pray to be perfect, though material heaven
Forbid the spirit so on earth to be;
But if for any wish thou canst not pray,
Then pray to God to cast that wish away.

I am afraid if we all followed your advice, and set apart a certain portion of our means for the use of the Lord, we would come to think the rest of it our own; whereas the New-Testament idea is, that it is all the Lord's, and we are only stewards. I think you so consider it yourself, but you seemed to lose sight of it last month. I have received much benefit from the Home Papers, and I have learned that God can use even the tender of patent hives to accomplish his end, as it was through one of these individuals that I first heard of GLEANINGS. I have a brother who is seeking Christ—pray for him.

C. W. T.

Thanks for the poem, friend T. To be sure, I agree with you; but I laid little stress on that point, for there is so much danger that we fall into the mistake of thinking if we take good care of our own wives and children, that our duty ends there. I can not think there is one whose eyes are on these pages, who could not forego some little thing in his daily or yearly expenses, that he might have just a little to give purely to God's work, or, in other words, for the uplifting of this great sea of humanity. If you haven't money, give a day's work toward shingling the meeting-house, or chopping wood for the Sunday-school, that they be not obliged to stop during the winter months. Let us all pray for that brother, and perhaps we shall hear, next month, that he has found and accepted Him who is the light of the world. May be he will write the letter himself.

I wish I could believe in prayer as you do. I am the only one who takes GLEANINGS here. I let all read it who wish to.

LEWIS N. COOPER.

Tehama, Cherokee Co., Kan.

We are glad to know that you want more faith, Friend C., for "he that seeketh" shall surely "find." Also, "he that doeth the will of my Father, shall know of the doctrine," etc. Pray that God may show you, my friend, and we will all pray for you.

GLEANINGS IN BEE CULTURE.

**A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.**

**TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.**

MEDINA, NOV. 1, 1880.

And as Moses lifted up the serpent in the wilderness, even so must the Son of man be lifted up; that whosoever believeth in him should not perish, but have eternal life.—JOHN iii. 14, 15.

If you want to succeed in business, answer promptly every letter or postal, of *whatever nature*, the very day it is received.

THE price of Spider plant and Simpson seed has been reduced to \$1.00 per lb., or 10c per oz., as you will see by our next price list.

ONE of our friends wanted a smoker that holds two quarts. We made him one, and I tell you it ought to give smoke enough to suit any one. If anybody else wants one, the price will be \$1.50, or \$2.00 if sent by mail. It has a monster bellows, to correspond to the huge firepot.

DECLINE IN THE PRICE OF GLASS.

GLASS has finally declined, so that our list should read 50c, a box less. Friend W. O. has also been enabled, in consequence, to put his ink down again at old prices; viz. \$4.00 per gross, and 20 per cent off for lots of 5 gross. See his revised advertisement.

BEWARE of personalities! One bee journal died through giving too much space to differences between two of its contributors, if I am not mistaken. Ask yourself over and over again if the article in question is going to be of general interest and value to all of your readers.

EVERY family ought to have at least a look at one of the 5c Sunday-school books. You can not buy a book at the stores that will please the children more, even if you pay five times as much; and all of these are carefully selected, and are perfectly safe to give your children. Sample by mail for 7c.

THEY have got a bee paper in Canada, called the *Dominion Apianian Bazar*, published at Toronto. The editor is a very good-natured and funny fellow; but for the life of us we can not tell what the subscription price is. Perhaps that, like the stump speaker's topic, will appear as he "gets along."

DOLLAR queens are all gone for the season, unless our friends in the South can still supply us. Tested and imported queens we can still supply, at the prices given in our catalogue; but we may be obliged to send them by express, instead of mail, as it gets a little colder. Remember, we guarantee only safe delivery at your express office.

OUR friend Given feels hard toward me because I objected to a "growl" on account of its length. I offered him, I think, one column, and he can have it any time; and he can use it, too, to show up my shortcomings in any way he chooses, and, if he prefers, I will make no defense. But I can not think it best to take any more room for something not of general interest to our readers. I also objected to publishing a testimonial without the name of the writer appended. Did I not do right?

FEEDING STOCKS THAT ARE NEEDY, IN NOVEMBER.

To bees that are without stores now, I would give candy made of granulated sugar, and grape sugar, as mentioned on page 545. If the colony is strong and well protected, give them a frame full: if rather weak, and in a hive not chaff-walled, give them small lumps of it, a little at a time, right over the cluster, and then cover them up warmly. As fast as they consume it, give them more, until they have enough stored in their combs to last them.

OUR neighbor Shane has just taken some honey to Cleveland, and reports that they offer 18c for the 1 lb. sections, but only 15c for the so-called prize section, holding 1¼ lbs. Quite a difference in price, for so little difference in size. Our neighbor Mason also took down some nice extracted clover honey, and got 18c per lb. for that; but it was only a small lot sold to a grocer, who retails it in tumblers.

ORDERING SMALL LOTS OF GRAPE SUGAR.

REMEMBER that grape sugar can not be sent profitably long distances, either by freight or express, in small lots, say less than 100 lbs. We have had a great deal ordered in lots of 10 and 25 lbs., where I felt sure it would cost our customers almost, if not quite as much, by the time he got it, as to go to the groceries and buy coffee or granulated sugar. If you will order a barrel, we can get rates of freight on it, to almost any place, from 40 to 75c. per hundred.

DIFFERENCE BETWEEN THE HOLY-LAND AND CYPRIAN BEES AND THE COMMON ITALIANS.

FRIEND JONES, while here, gave us the following test: The two former races have between the wings, right where the shoulders join on to the body, a sort of disk, or shield, of a golden yellow color. In Italians, this same shield is of a brownish color, and, in the blacks, pure black. At the time he was here, I thought it a pretty decided mark of distinction; but a more careful examination reveals the fact, that many of our Italian stocks have the golden disk almost as plainly as the others.

IN the Nov. No. of last year, I advised a friend to go to his minister, rather than to a lawyer, to settle a matter about some horses that were killed by bees. I did not mean to intimate that lawyers were useless members of a community, as society now is, but rather that we might strive to live in such a way as to avoid, as far as may be, the necessity of calling on them. Our family physician is one of the best friends we have,—or, at least, he ought to be; but for all that, we would be very glad indeed if we could get along without him,—in the capacity of a physician.

COVERING THE BEES FOR WINTER.

IT is about time now for most of you to put on the chaff cushions. Cover the bees with the wooden mats, burlap, old grain-bags, or the enameled sheets, as you choose; but make this covering *close*, so no bees can get above it during the winter. By far the nicest way to do this, in my opinion, is to spread about a peck of loose chaff all around the sides and edges of this cover. If some of it rattles down among the bees, it will do no harm. Now press in your thick chaff cushion, and no draft can possibly get through the hive. If you do not agree with me in regard to the enameled sheet for winter, used in this way, don't use it.

A QUANDARY.

MR. GEO. M. DEER, Rice, Lenawee Co., Mich., wrote me a postal, saying he had a barrel of honey that he would sell me for 8c per lb. Thinking that at this very low price, it was not likely to be extra good, I told him to send it along. It has come, and is as handsome clover and basswood honey as you ever saw. What troubles me is, that on another page I have reported that nice extracted honey sells for 18c. Probably I shall not be able to get 18c for it, but it will, without doubt, retail for 14. It is a fair bargain, and I presume friend D. is perfectly satisfied; but the honey is so much nicer than I expected, I do not feel easy about it. How much more per lb. shall I pay him? In other words, how large a profit ought we to make on what we buy of our neighbors? We who are trying to be Christians, say.

THE HOLY-LAND AND CYPRIANS, IN COLD WEATHER.

NEIGHBOR BLAKESLEE reports his Holy-Land queen as rearing brood and drones too, at a great rate; but neither he nor any live man can handle them at this time of the year. Neighbor H., too, has Holy-Land drones by the thousand, but not a one among the Italians. This peculiarity of rearing brood and drones late in the season, without any feeding, is certainly a great thing, and that alone will be worth all these new races have cost, in my opinion. They are as easily handled as Italians, when the weather is warm and they are getting honey. I hereby take back what I said about their not being different from Italians. Will tried twice to unite

bees with our Cyprian colony; but he says all the smoking you can get up won't make any difference. They stung and carried out every last bee. Not much chance to rob "them fellers." We have given them frames of candy, and they are now rearing their own bees bravely.

FEEDING EXTRACTED HONEY, TO GET THE BEES TO FILL OUT SECTIONS.

We have had some statements made recently in regard to the matter, that are so different from my own experience (in regard to the loss of honey by so doing), that I would suggest an experiment. Get a pair of platform scales with a dial, capable of recording 100 lbs. Set a hive of bees on the platform, and, in the third story above the frames, put a tin pan full of honey. If there is a loss, the hand of the dial will record it while the bees are taking the honey out of the pan. I have made exactly the above experiment, and the whole apparatus weighed just about as much when the honey was down in the combs as it did when in the pan. I gave the colony 50 lbs. of thick honey, and they weighed so nearly the 50 lbs. more, that there was practically no loss. If you doubt it, try it yourself. For all that, I would not feed to get comb honey, for the reasons I have given in recent numbers.

EXPRESS CHARGES.

WILL the friends be careful about sending us things by *express* that we do not order? If you pre-pay the charges, all very well; but even then it would be better to ask first if we would care for such a thing or article. I know you mean it in kindness, and I presume you do not consider that the charges often amount to nearly a dollar on things that may be of no value to us.

One of you sent us a box of roots by express, on which the charge was 80c. I did not order them, and I do not want them. If I refuse to accept them, the express company will have to lose it, unless our friend will lose it himself. He, knowing my zeal for new honey-plants, in the generosity of his heart sent me a whole box full of roots, not thinking, apparently, of the charges, or that I might prefer to try a single plant first, to ascertain whether it would thrive on our soil. Shall I let him suffer, or even the innocent express co? Another friend sent by *express* some back volumes of GLEANINGS, on which the charges are, I think, 45c. We have tons, almost, of the same already. Shall I pay the charges? I said once I wouldn't; but I guess I will, after all. But, please be careful, my friends, will you not?

THOSE \$4.00 WATERBURY WATCHES.

My friends, we can not very well be disappointed on these right away, for we have just opened a box containing a whole gross; yes, 144 of these beautiful stem-winding watches. We shall have every one carefully regulated and tested before sending them out, and every one that does not please you may be sent back any time within 30 days, *you paying all postage*. This will save all need of a long description of them. I carry one myself, and it gives me more pleasure than any watch I ever before owned. If you wish, you can have the one in my pocket. By buying so many, I am enabled to furnish them, by the dozen, for \$36.00, *by express*. Not less than a whole dozen will be sold at this price; but, for accommodation, I will sell two watches for \$7.50; three for \$11.00, or six for \$20.00. You may say my conscience allows me more profit on these than it did on the honey; very true, for I have to be responsible for their "good behavior," for 30 days. If you will take all the risks, I will make any watch 25c cheaper, except those sold by the dozen or half-dozen. For every watch wanted by mail, you must send 15c extra, for postage and registering. A watch will be sent free to any one sending us \$12.00 for 12 subscribers, and asking no other premium.

SOME MORE BUSINESS TROUBLES; DR. CHASE'S RECEIPT-BOOK.

A CUSTOMER asked if we could furnish him Dr. Chase's receipt-book, and if so, at how much. We replied, \$2.00 for the new edition, just out. He sent the money, and we wrote the publisher to mail it to his address, and send us bill; or, if he chose, to send us bill first. No reply but a printed circular. We wrote again, and he said he couldn't furnish it for less than \$2.00 to anybody, and he must have cash in

advance. We sent the money, telling him to be sure and mail it to our customer direct, as he must be impatient at such delay. He mailed it directly to us instead. I therefore had to sell the book at cost, and pay a heavy postage on it besides. But, worst of all, come to look it up, our clerk had kept no record of the transaction, and there was no way but to go to the publisher again after the address. This publisher's name is R. A. Beal, Ann Arbor, Mich. I explained to him we were publishers, and that it was pretty hard to do business without a commission, and then pay his blunders besides; but he seems to be happy for all that,—at least, he does not say he is sorry. Dr. Chase used to give us an excellent receipt-book for a little money; but now his \$2.00 one has the whole fore part of it occupied with his patent medicines that he will send for 50c, a box, or a dollar a bottle. I do not mean to say this spitefully, but to warn you that, if you send for the book, you will pay \$2.00 for a patent-medicine almanac with a little about bees, in very small type, at the back part of it.

ARE THERE BLACK BEES IN ITALY?

FRIEND JONES assures us there are; but when questioned further, if I am correct, says he could find none in the districts where Tremontani, Bianconcini, and Florini are located. You will remember, we have purchased queens from these parties only. I should think we have imported from 500 to 1000 since I began the importing business. The greater part of these have been introduced and tested in our own apiary. Not one of all these has ever produced bees that did not show the three yellow bands, under the test given in the A. B. C. Of those sent out to other parties, we have had perhaps a half-dozen cases where they called them hybrids. Of course, more than that number have been called hybrids by inexperienced persons; but, all but about a half-dozen, as nearly as I can judge, have afterward acknowledged that the bees were all right, according to the A. B. C. test. Of the half-dozen, at least half of them at first pronounced the queen's progeny all right, but after a time, sometimes the next season, they pronounced them hybrids. I can not but think, and I believe they are inclined to agree with me, that the queens in these cases might have been changed by some of the various means that have been so often mentioned of late. Notwithstanding this, I have, in most instances, if not all, given them another queen. I did this because I would rather lose myself, where there is even a small probability of my wronging somebody else. One or two of the three have afterward voluntarily paid a part of the value of the second imported queen. This leaves three cases unexplained. If I am correct, two of these were queens that produced three-banded bees in our apiary, but did not after being introduced into other hives. I can not but think that in these cases, there is a possibility that there was a queen left in the hive where they were introduced, and thus they were replaced. What do you think about it, after the facts I have given? We have one case remaining, where an imported queen was sent out, I think, right from the box she was imported in, and she produced hybrid bees. I sent another, but the friend who received her agreed with me that there was a possibility, at least, that she was replaced, but that he saw her so often, he could hardly think such was the case. He paid me part of the price of the second one.

Why do we not clip their wings? Because we should catch "Hail Columbia" from a great part of our customers, if we clipped all our queens as soon as introduced. We might clip them as we send them out, when requested to do so; but as a queen, after being clipped, is excited, and possibly suffers pain, she is not in the best condition to bear the hardship of a long journey. Besides all this, it is no positive proof if your queen is clipped; for queens, after being balled, frequently have their wings bitten off, so that it would be difficult to tell whether her wings had ever been clipped or not. Look and see how many of your old queens have stumped and jagged wings. What shall we do to be sure we have always the same original queen we purchased? I do not know; but we are now making a test of aniline on their wings.

Mr. Jones says he found plenty of black bees in the vicinity of Rome, if I am correct. He also said there had been much complaint of the queens sent by Pommetta. It may be well, when buying an imported queen, to know who sent her out.

MR. MERRYBANKS' SON AND HIS NEIGHBOR'S DAUGHTER.

MASTER MERRYBANKS, after hearing his father tell some wonderful stories about the way bees gather honey from the flowers, takes the opportunity of imparting the same startling facts to the daughter of their next-door neighbor. This neighbor, although a very homely man himself (as you may have observed in our Sept. No.), has a very comely daughter. The hog-pen has been fixed up again, and he has



HOW THE BEES GET THE HONEY.

put his bee-hives a little further away. Mr. Merrybanks has also got his buggy fixed, and that truant swarm that went off to the woods in spite of the tin pans, etc., is now contentedly reposing under the foliage of that tree you see in the distance, (there is a tree in the distance, is there not?) And this reminds me that I have been feeling badly, to think our artist did not give the boy any larger feet; but then, you know boys' feet usually grow some as they get older. Perhaps, next time we see him his feet may be larger.

I AM sorry to be obliged to caution our readers against sending any honey, or any thing else, to G. W. Marshall, Davenport, Iowa, who is advertising for honey on commission, in some of the journals.

If you have a colony short of bees, you can, by commencing at once, raise a nice lot of young bees with a frame of flour candy. Put the candy in the center of the brood-nest until they get well started on it, and then move it a little to one side. Endeavor to prevent them from building a comb in the frame in place of the candy if you can. You can use a tray of candy to set over the frames if you prefer it.

NICE CLOVER AND BASSWOOD HONEY FOR 25¢ A PAILFUL, PAID THROWN IN.

Yes, and the pail has a cover on it besides. While I think of it, it may be well to remark, that the pail does not hold quite a quart; but still it is a very good pail, and holds a full 1½ lb. of nice honey. If you do not want a tin pail, we will put the honey in paper pails for an even 15¢ per lb.

The above ad. we have just put in our county paper, to help sell that nice barrel of honey. We can furnish you paper pails, for retailing honey, for from one to 3¢ each. Sample by mail for 2¢.

The *American Bee Journal* will be published as a weekly at \$2.00 a year, during 1881. We will club it with *GLEANINGS* at \$2.75. The *Western Honey-Bee* has changed its name to the *American Bee-Keeper*, and advanced the price to \$1.00 per year.

PREMIUMS FOR SUBSCRIBING EARLY.

Every subscriber who remits us \$1.00 during the present month of Nov., for *GLEANINGS* for the year 1881, may have his choice of any article on the 10c. counter, providing you mention it at the time you send the dollar, tell us which article you choose, and send along the postage.

All who remit during the month of Dec., may have any 5c article under the same conditions.

We offer no premium for any single subscriber after the first of Jan.

To avail yourself of these offers, you must comply with the conditions named. Do not tell the clerks to pick out your premiums themselves, and do not omit the postage; for we want the whole business so that we can go right along as rapidly as we can handle the goods, just as we did with the counter store on the fair grounds.

These offers are for \$1.00 subscribers for *GLEANINGS*; we can not afford it on those that are sent in at club prices. Any of the articles on any of the counters may be secured by counting each name at the price given, viz. 10c.

RECENT ADDITIONS TO THE COUNTER STORE.

5c. COUNTER.

3 Cork Screws..... 45 | 4 00

GLASSWARE.

Bird Baths..... 48 | 4 50

Cake Plates, 7½ inch in diameter..... 48 | 4 50

Egg Cups, individual, regular little beauties..... 48 | 4 50

Pickle Dishes or boats 8½ in. long..... 48 | 4 50

Tumblers, large size for only 5c, and with tin cap for the same 1c more, making a nice receptacle for jelly or honey for 6c..... 50 | 5 00

2 Magnets, Horse Shoe, 1½ in..... 45 | 4 50

10c. COUNTER.

10 Bread Pans, deep and square..... 85 | 8 00

10 Bread Pans, shallow and nice..... 85 | 8 00

6 Cake Spoon, heavy, with smooth, wood handle, just the thing for sponge cake..... 85 | 8 00

6 Stew Pans, very nice, 1 qt..... 85 | 8 00

9 Tin Pans, 1 pint, 3 for 10c. Very pretty and very useful..... 28 | 2 50

15c. COUNTER.

5 Call Bells for School Teachers..... 1 40 | 13 50

7 Molasses Cups, Crystallized, splendid for the price..... 1 30 | 12 00

25c. COUNTER.

10 Casters, 3 bottles, Silvered wire, small, but handsome enough to make a little girl crazy..... 2 25 | 20 00

2 Rubber Bands, light, gr. boxes..... 2 00 | 18 00

18 Sauce Pan, with lip, beautifully retined, and looks as handsome as Silver-plated, holds 3 qts..... 2 00 | 18 00

35c. COUNTER.

42 Coffee Mills..... 3 30 | 32 00

8 Wing Dividers..... 3 30 | 32 00

50c. COUNTER.

25 Call Bell, Duck pattern, very unique..... 4 50 | 44 00

Coal Hods, janned..... 4 50 | 40 00

FOR SALE.

A few thousand Red Bud trees, 2 to 5 ft. They are hardy, and beautiful when in bloom. Every beekeeper should have them to ornament his yard, and for bee forage. For price apply to

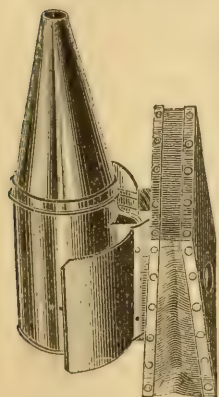
J. B. MURRAY, Ada, Ohio.

FOR SALE.

One 3½ H. P. upright boiler, with gauges, etc., in complete and splendid order. 47 ½ in. flues. Only \$75.00. One Barnes' rip and scroll saw, in good order, cost \$100.00; only \$25.00. One 10x12 XX drilling tent; left wall newly made for extracting. Will trade for Ex. Honey. Apply immediately.

JNO. Y. DETWILER, Toledo, O.

WORTH KNOWING!



Dealers and users of smokers are cautioned against selling or using smokers having, substantially, my patent draft, unless made by me, as I am their original and first inventor, patentee, and only legal maker. Without an open draft, a reliable fire in any bellows smoker is impossible; while, with Bingham's open draft, stove wood, chips, or anything combustible, burns as steadily as in a parlor stove. The largest bee-keepers use from one to twenty Bingham smokers and Bingham & Hetherington honey-knives in their different apiaries. Over three thousand have been in steady use three years. Every bee-keeper speaks in the highest praise of them, except the makers of infringing smokers.

No word or letter of complaint has ever come to us from the twenty thousand happy users of them. We have never heard of any smoker or honey-knife said to be better than Bingham & Hetherington's. M. Quinby made a 1½-inch smoker which he sold for \$1.50, in which only dry rotten wood could be burnt, the draft was so poor. Bingham made a 1½-inch smoker for one dollar, which would burn anything combustible, and never go out. For this valuable improvement and reduction in price, and patent, Bingham is abused by every gentleman who wants to make infringing smokers. Five dollars, received before Dec. 31, 1880, will buy 12 Little Wonder 1½-inch Bingham bee-smokers; 6 will be sent on receipt of \$2.50; or one as sample, postpaid to any address in the U. S., on receipt of 75 cents, if before Dec. 31, 1880. Bingham smokers are of three sizes, patented Jan. 9, 1878; reissued July 9, 1878. Send card for circular.

Address BINGHAM & HETHERINGTON,
12d Otsego, Allegan Co., Michigan.

PRESENTS FOR THE HOLIDAYS, OF USEFUL AND BEAUTIFUL ARTICLES FOR A WONDERFULLY SMALL AMOUNT OF MONEY.

As an illustration, we can give you, for
ONLY FIVE CENTS,

Sunday-School Books containing the same reading matter as those sold from \$1.00 to 1.50; 70 different volumes are now ready.

Beautiful Little Pocket-Testaments, with flexible cloth covers. Wood-handled pocket knives for boys. A wonder for the money. Just think of it! any of the above for only 5 cents.

The secret of our selling these so cheap is, that we buy them by the thousands. We sent an order yesterday to one establishment for over 2000 of these little knives.

We have for months past sold scissors for only 5 cents, but now we have a very good pair of small shears for only FIVE CENTS.

For only 10 cents, we can give the boys a two-bladed knife, just as pretty as can be.

For only 15 cents, a pair of scissors, solid steel, handles and blades beautifully finished.

For only 25 cents, really good shears, with finest quality of steel blades.

Beautiful Bibles for only 25 cents.

Just the cutest and prettiest mittens for the baby, for only 15 cents, and very good ladies' gloves for 15 cents.

Gloves and mittens for anybody, for 25 cents.

And so on, clear up to our American watches, regulated and warranted, for only \$4.00 each. We purchased of the factory, in Waterbury, Ct., a whole gross of these watches a few days ago. Just think of it! 144 in a single order, and yet more than one-half of them have been sold in less than 30 days. Our goods go into almost every civilized country on the face of the earth, and it will therefore be almost impossible to keep a full stock of every thing just before the holidays; therefore, come at once if you do not wish to be disappointed. We have time now, and can give you just what you ask for promptly. Send an order to our *Harbor of Useful Articles*, and see if Medina boys and girls can not wait on you promptly and correctly.

Our Catalogues of over 500 articles furnished free on application, or sent by mail anywhere. These goods will be sent to friends anywhere in the world. For postage, etc., see catalogue.

A. I. ROOT, Medina, O.

50 FINE MIXED CARDS, with name, 10 cents, postpaid. M. L. DORMAN, Sinclairville, 121td Chaut. Co., N. Y.

"W. O.'S" INK.

In 2 oz. bottles, black, violet, or blue, in ¼ gross boxes, per gross..... \$4 00
In quantities of 5 or more gross, \$3.20 per Gross.
In Pint Bottles, per doz.....\$3 00
In Quart " " 6 00
In Gallon Jugs " " 12 00

Green and Red ink are necessarily more expensive, and the price will therefore be one-half more.

Liquid Blueing, in 6 oz. bottles, per doz..... 50 gross \$5 40

I will send ¼ gross, 2 oz. inks, assorted colors, black, blue, violet, and one bottle each of green and red, as a trial order for \$1.00.

WM. OLDROYD, Columbus, Ohio.

The Oldest Bee Paper in America—Established in 1861.

AMERICAN BEE JOURNAL,

Published WEEKLY, at \$2.00 a year.

The first and third numbers of each month, \$1.00 a year.

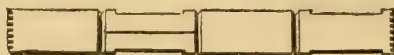
The first number of each month, 50 cents a year.

THOMAS G. NEWMAN, Editor and Proprietor,
974 West Madison Street, Chicago, Ill.

FOR SALE, a new double-barrel breech-loading shot-gun, with 18 brass shells. Price \$32.

WM. G. VANHOUTEN, Deckertown, Sussex Co., N. J.

CHEAP SECTIONS!



During the month of December we will make the "Boss" section, any size desired, up to 5x6, for \$5 00 per M. JAMES FORNCROOK & CO.

Watertown, Jeff. Co., Wis., Dec. 1, 1880.

12d



I

ARISE

To Inquire if you have received DOOLITTLE'S Bee-Keepers' Club-List for 1881. If not, you can save money by sending your address, plainly written, to

G. M. DOOLITTLE,

Borodino, Onondaga Co.,

12d

N. Y.

THE A B C OF BEE CULTURE.

Bound in paper, mailed for \$1.00. At wholesale, same price as GLEANINGS, with which it may be clubbed. One copy, \$1.00; 2 copies, \$1.90; three copies, \$2.75; five copies, \$4.00; ten copies, \$7.50.

The same, neatly bound in cloth, with the covers neatly embellished in embossing and gold, one copy, \$1.25; 2 copies, \$2.40; three copies, \$3.50; five copies, \$5.25; ten copies, \$10.00. If ordered by freight or express, the postage may be deducted, which will be 12c on the book in paper, and 15c each, on the book in cloth.

Cook's Manual in paper or cloth at the same price as above.

A. I. ROOT, Medina, O.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

I wish to purchase a quantity of comb or light extracted honey. Correspondence solicited.

F. L. WRIGHT.

Plainfield, Liv. Co., Mich., Box 32.

I have for sale one barrel of extra nice linden honey granulated. Sample can be had by applying to J. B. MURRAY, Ada, Hardin Co., Ohio.

I want choice extracted, both light and dark, and comb honey. Please send sample with price.

T. L. VONDORN, 820 S. Ave., Omaha, Nebraska.
Nov. 11, 1880.

CITY MARKETS.

CINCINNATI.—Honey.—Scarce, both Extracted and Comb; demand slow. We pay 10c per lb. for Extracted Clover Honey, and 16c for choice white Comb Honey. Other good qualities, 18 c.

Beeswax.—Is 20@25c per lb. on arrival.

Cincinnati, O., Oct. 21, '80.

C. F. MUTH.

Friend Root:—I was away from home, and returned late last night. Excuse delay. Demand for comb honey, slow; supply, good. The market for extracted clear honey is very lively, and supply scant. The prices are the same as quoted last. Supply and demand of beeswax is about medium. Prices range from 18 to 22 cts.

C. F. MUTH.

Cincinnati, Nov. 23, 1880.

CHICAGO.—Honey.—Comb Honey is in slow demand at 20@22c, for nice light lots; dark, 12 to 14c. Extracted Honey, 7@9c.

Beeswax.—19@21c for light, and 15@17c for dark.

ALFRED H. NEWMAN.

972 West Madison St., Chicago, Ill., Nov. 23, '80.

NEW YORK.—Honey.—Best white Comb, small boxes, new, 17@20c; fair, ditto, 15@16c; buckwheat, ditto, 11@13c; large boxes, 2c per lb. less. White Extracted, 8½@9½c; Dark, ditto, 6@7c. Southern strained honey, 85@95c per gal.

Beeswax.—21@24c.

A. Y. THURBER.

158 Duane St., New York, Aug. 26, 1880.

ST. LOUIS.—Honey.—Our market for honey continues steady at 19 to 21c, for choice comb, and 8 to 11c, for choice extracted. The market is nearly bare of good comb honey, but it is reported here that there is a large shipment coming of California comb, and may look for lower prices.

Beeswax.—Quiet and steady; saleable at 21 to 23c.

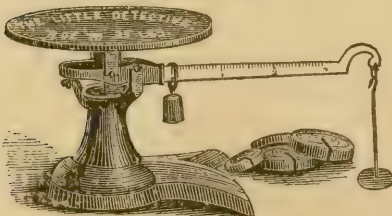
Oct. 18, 1880.

R. C. GREER & Co.

No. 117 North Main St., St. Louis, Mo.

MISCELLANEOUS COUNTER.

FOR \$2.50.



"Little Detective" Scales. This little Scale is made with Steel Bearings and a Brass Beam and will weigh accurately any package from ¼ oz. to 25 lbs. It is intended to supply the great demand for a Housekeeper's Scale. It is hardly as rapid a

weigher as the "Favorite," and does not, like it, take off the tare; but it weighs a smaller quantity, does it rather more accurately, under all circumstances, and costs \$1.00 less. Every scale guaranteed perfect. Not mailable.

FOR \$2.00.

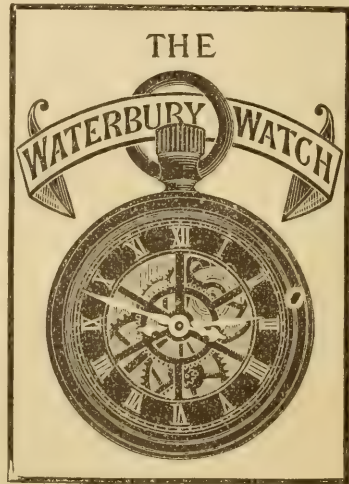
Nutmeg Clock. A good, serviceable, Seth Thomas clock; requires No Key, and the hands are set without opening it; beautifully finished in Nickel Case. By mail, 15c extra.

FOR \$3.50.

Knives, Table, triple plated on steel, best, per dozen, \$3.50. By mail, 40c extra; ½ doz., at doz. rates.

FOR \$4.00.

A GENUINE AMERICAN STEM-WINDING WATCH FOR ONLY \$1.00.



One of the most Striking Examples of Mechanical Ingenuity of the Age.

At first, I was somewhat prejudiced against these, thinking a good time piece could not be made for such an insignificant sum of money; but after having sold over a gross of them, and carried one several months in my pocket, I am fully convinced we have never before had any thing like it for twice the money. The only inconvenience I know about it is, that it takes from one to two minutes to wind it up. This is in consequence of the very long mainspring, which fills a barrel almost the full size of the watch. This very feature, however, avoids the great strain, in so small a compass, which we find in all ordinary watches, to such a degree that I have never yet had a mainspring break, nor have I ever heard of one breaking. As the watch can easily be wound with one hand (no key being required), it is an easy matter to wind it while walking along, or even when taking it out to observe the time. Only one pattern is made, and that is open face; but it has a heavy ground-glass crystal that is seldom broken. As the greater part of my life has been spent in repairing watches, I feel myself competent to judge.

For a Christmas or New-Year's present, it is the prettiest and most useful article for a boy, man, or even for a lady, who teaches, or for any one who needs a time-piece (as they are rather small in size), of any thing that can well be imagined. The cases are heavily nickel-plated, and wear with a luster, when carried in the pocket, surpassing even silver.

The whole is put up in a very pretty box, with a book of instruction in the care of it, and every time I look at one, I can only wonder that they can be furnished for any such sum of money. We shall have every one carefully regulated and tested before sending them out, and every one that does not please you may be sent back any time within 30 days, you paying all postage. This will save all need of a long description of them. I carry one myself, and it gives me more pleasure than any watch I ever before owned. If you wish, you can have the one in my pocket. By buying so many, I am enabled to furnish them, by the dozen, for \$36.00, by express. Not less than a whole dozen will be sold at this price; but, for accommodation, I will sell two watches for \$7.50; three for \$11.00, or six for \$20.00. If you will

take all the risks, I will make any watch 25c cheaper, except those sold by the dozen or half-dozen. For every watch wanted by mail, you must send 50c extra, for postage and registering. A watch will be sent free to any one sending us \$12.00 for 12 subscribers, and asking no other premium.

FOR \$9.50.

We have once more in stock, good strong 2-ounce case American Silver Watches, all regulated and in running order, that I will mail to any address for the above price; and if it does not please you, you may return it within ten days and get your money. Or I will send you the watch for 20 subscribers, at \$1.00 each. You can have either hunting or open face, and such a watch, for a present, ought to make any boy (or man either) happy.

The above as well as the \$4.00 watches will regulate so as to run within 2 or 3 minutes per week; if you want greater accuracy than this, it will cost you more. Say for a watch running to a minute a week, \$20.00, and for a minute a month, \$40.00, in the pocket.

A. I. ROOT, Medina, O.

KIND WORDS FROM OUR CUSTOMERS

The 10c pocket-level I could not have bought at our hardware store for less than 25c.

Linden, Genesee Co., Mich.

L. E. WELCH.

Inclosed find — for GLEANINGS another year. It is of more benefit to me than 5 colonies of bees.

J. S. DEWEY.

Spring Lake, Ottawa Co., Mich., Oct. 20, 1880.

I find GLEANINGS IN BEE CULTURE is just as essential, in taking care of bees, as the pendulum of a clock to keep its machinery moving properly.

Burlington, Ia., Oct. 22, 1880.

R. BULMER.

I could not get along without GLEANINGS. Your A B C is worth \$10.00 to any bee-keeper. How can you get them up so cheap?

A. S. MYERS.

West Woodstock, Windham Co., Conn.

The goods you sent came all right, and I must say that I am more than pleased with them, the only surprise is, how you can sell them so cheap.

H. D. NORWOOD.

Dundas, Rice Co., Minn., May 15, 1880.

I wish to thank you for promptness in sending queens. The order left here at 8:10 P.M. on Thursday, and the queen was here on Saturday morning, and is now safely introduced.

C. H. HOYT.

Norwalk, Huron Co., O., Nov. 8, 1880.

Find enclosed \$1 for GLEANINGS for the year 1881. Bees are a failure. I don't take GLEANINGS for bee reading, but for the Home Papers.

JOHN S. MCCORMICK.

Columbus, Cherokee Co., Kan., Oct. 13, 1880.

I was much pleased with those Simplicity hives you sent me last spring, although they were very slow getting here. I transferred my bees as soon as I got the hives, and from one hive sold over 11 dollars worth of honey. Pretty good for a beginner, I think.

Sabatha, Kan., Oct. 17, 1880.

WES McNARY.

I feel somewhat lonesome here, as my "better hal" and babies are in Ohio. I miss them very much, and miss Sunday-school too, as it has been my high privilege to superintend one for some years. But Our Homes, affords me a great source of enjoyment. Go on, brother, and in the "morning" we shall meet in one great family.

G. W. CASKEY.

Parsons, Labette Co., Kan., May 11, 1880.

The queen you sent me last came all right in good order, dry and nice, and I got her introduced all right, and I am well pleased and very thankful that you did not get out of patience. I intended to let you know abt at the result sooner, but it slipped my mind after I got her introduced.

D. BAILEY.

Chester, O., Oct. 29, 1880.

[And I, friend B., am thankful that you did not get out of patience.]

I have given up the idea of keeping bees without GLEANINGS. It is like cooking without a stove—very poorly done. The first copy I saw was two years

ago. I could not wait to read it through until I subscribed for one for myself, and expect to take it as long as I live. I like to see these cartoons, they are so laughable; and the Home Papers, I call my sermons. They are just splendid.

MRS. JULIA A. COCHRAN.

Macon, Macon Co., Ill., Oct. 25, 1880.

For the inclosed, send GLEANINGS another year. I have built up my whole apiary from GLEANINGS, and would not do without it *now* for half my apiary would amount to yearly; so, you see, it is a fix-ure, so to speak. I am at work on a picture of my apiary, which I will send you, as soon as complete.

Hanover, Mich., Nov. 5, '80. FRANK P. GREINER.

I owe you a warm thank for your kindness in sending me your A B C book, which is a really valuable one. I do not know how a bee-man, particularly a beginner, can get along without it.

Last fall I received a dollar queen from you; added it to a very weak black-bee swarm, with an abundant store of honey. This summer they gave me the most honey I ever received from the heaviest black-bee swarm; but hereafter I want no more black bees.

G. N. HARCY, M.D.

Bellevue, Huron Co., O., Oct. 11, 1880.

I am very much pleased with your counter store, where we can get so many useful articles at about one-half the price we have to pay at any retail store, where such enormous profits are filched from the people. The time is not far distant when the laboring classes will be alive to their own interests—will think and investigate, and will buy so as to save much of their hard-earned money that now goes to make nabobs of the merchants. By the way, don't you think that, by buying a gross of eight-day perpetual calendar clocks, giving the hour of the day, day of the week, day of the month, and month of the year, that you could furnish your subscribers with a real, good, substantial, and pretty article for not exceeding \$5.00? You might give notice in GLEANINGS for all who would take one, to give you notice by postal card. They would be a nice present to make our wives at Christmas time.

J. S. DEWEY.

Spring Lake, Mich., Nov. 1, 1880.

[An excellent idea, friend D., and we tender you thanks for the suggestion. Those wives will please take notice, that they must not be surprised to see a calendar clock, if one should come. I will write at once to the manufacturers, and see what they will do on a gross. A gross of real good Seth Thomas clocks will cost, I fear, not less than a thousand dollars. Be not too severe on your friends, the merchants, friend D.; with their sales, and their high rents, they often have to pay, they often can not well do much better.]

I think, if I had been in your place, I would have sent the thimble to an engraver to oblige a subscriber who has always paid his dues. I offered to pay for it, but I suppose such trifles are beneath your dignity. Inclosed find one cent for postal with statement of account, and one cent for postal to return receipt at once. Don't make me wait as usual.

Leesport, Pa., Nov. 3, 1880.

OWEN H. WILLY.

[Now, I assure you, friend W., I had not thought of being unkind or unaccommodating. You will see by the list, that we make only about 3c each on our thimbles, in selling them at 25c. Jewelers usually get 50c for the same; but they are obliged to charge this profit to cover expense of engraving. It is true, I could have sent the thimble to an engraver, but he would charge 25c per letter; and, if your name happened to be a long one, you would think it exorbitant; or, at least, people usually do, until it has been explained to them. I should have had to send a boy with it, and before it was done I would likely have to send several times, judging from past experience. Do you not see that such things would ruin my project of selling things to you close? Again, should I attempt to have a clerk explain all this to you by letter, the time of the clerk would more than absorb the 3 cents profit. To make the counter store a success, I am obliged to watch constantly, and repress every leak and loss of this kind; and I am obliged, too, to omit explanations many times, because the profit on the article will not admit of it. Now, as a rule, will it not be best, in many of the affairs of life, to have charity enough for those with

whom you deal, to presume they have some good reason you do not know of, for their apparent "dignity," as you have termed it, and to try to forbear harsh censure?]

Bis dat qui cito dat. That is, "Twice done which is done quickly." The A B C arrived three days before the return of the registration receipt card, and I am satisfied. But the spirit moves me, and I must say something more. It may be that it will give you pleasure; if so, well. It may be that it is a matter of indifference to you; if so, I have been benefited by exercising a kindly intention. Heretofore, and still, I have always shrunk from a man who drags religion, God, and the Bible, into the common run of business affairs. Why? Because I have personally experienced, oh so often! hypocrisy of that sort used as a cloak for deception; and consequently, on reading the first number of GLEANINGS, owing to the prejudice of 30 years or more I felt as a cat might be expected to feel on rubbing her hair the wrong way. On second consideration, however, I saw the work was a valuable one to bee-keepers, and that its tendency was highly moral. In tone, too, it had the peculiar ring of sincerity (at least, I think so), and I said to myself, "Judge not. If Root feels like quoting Scripture, and expressing his religious feelings on every occasion, why should I object because my task is to keep my personal religious feelings to myself, although, probably, quite as strong as his? Perhaps after all it is I who am wrong, although I am neither afraid nor ashamed to own up to my allegiance to Jesus, when occasion requires it. *Quien sabe?* as they say in Mexico."

Well, what is the moral of all this? I felt, as I was reading GLEANINGS this morning, that perhaps I was doing Root an injustice in my own mind, and I felt so uneasy that I arose, left a comfortable fire, and sat down here in a cold room to write this "amend." Why I should have done so, I know not further than that the spirit moved me (I am not a Quaker), and on reading a "Life Picture in two Chapters," it concided so with my own experience, that I thought it might give you some pleasure to know, or let your readers know, my loss. On the 14th of Sept. I wrote to you, inclosing remittance, and registered the letter. In about a month after, I thought it time to get a reply, but none came. Well, on the 22d of Sept. I sent a registered letter to a firm in Chicago, and on the 18th of Oct. I received a reply and return of registered receipt, but no word from Mr. Root, although I had written to him eight days before writing to Chicago. At this stage of the proceedings, having for the moment forgotten I had registered my letter to Root, I actually sat down and wrote to him to know the reason—why. When I recollected I had registered his letter, and as I had not his returned receipt, of course I knew he was not to blame so far, and I tore up my note. Finally, on the 22d of Oct., just 1 month and 3 days, I received the books, etc., from Root, and in advance, too, of the register receipt. Had I not registered my letter, I would have been harboring bad feelings against Root all that time, which he would not have deserved; for which, bogus advertisers are chiefly to blame in making good-natured, and even *Christian gentlemen* suspicious. If you wish to publish this in whole or in part, you may do so leaving out my name and address.

KIND WORDS TO OUR CUSTOMERS.

Do not return any thing until you have first written us what you think is wrong about it, and we have desired you so to do.

SEVERAL of our friends have immediately, on receiving their goods, written back harshly, because some article was missing; whereas, had they but waited for the next mail, they would have received a bill notifying them that the missing article was out of stock, and would be sent soon by mail. Shall we not learn a lesson in being slow to complain?

ORDERS REFERRING TO PREVIOUS CORRESPONDENCE.

A GREAT many of you write first and ask for an estimate on certain things made so and so. Well, this is an excellent way to do, and we are very glad to give such estimates; but many troubles and complaints have occurred by our friends not referring

to this estimate, or giving us any hint that such a one has been sent them, when they come to make the order. As an illustration, a friend asked what 50 ridge-boards for chaff hives would cost, made 2 inches longer than ordinary. We gave him prices, and he sent an order; but the order said 50 ridge-boards, and nothing more, without the remotest allusion to his having written before for figures on an odd length. When he got them, if I am correct, he said he could not use them at all. We can instantly lay hand on all your former letters, if you give us any kind of a clew to the fact that one is to be looked up; but there is no such thing as *remembering*, scarcely one hour, where so many are at work and so many letters are all the time before us. Will you not try to bear this in mind?

EXPENSE OF GETTING GOODS TO YOUR HOMES.

ALTHOUGH we are making it a study all the time to make our price lists plain, it seems there is a good deal of misapprehension. A lady asks if we sell the counter goods; if not, where she can get them. Another friend wishes to know if we could not send them by freight or express, where one wants quite a number of articles. Why, bless you, my friends, we are all the time filling great boxes with them, to go to almost every part of the world. We put on the postage, simply to give you an opportunity of getting samples cheaply, before you buy in quantities. Orders from great distances, California, for instance, often go cheaper by mail, even if the package weighs 3 or 4 lbs., and then you always know just what the goods are going to cost, without any mistake. We are constantly figuring, and doing our best all the time, to get cheaper rates by express and freight; and if you carefully read over our rates in the fore part of our price list, you can usually avoid expensive shipments. On postage, every cent represents 1 oz. Well, from these figures you can easily determine what the goods will weigh; and if you will ask your station agent how much it will cost to get a package weighing so much, he can usually tell you very nearly, and thus prevent disappointment.

BLAMING POSTAL AUTHORITIES, AND EXPRESS COMPANIES, ETC.

I KNOW how natural it is, my friends, to scold somebody or about somebody, when we are disappointed, and how seldom it is we think of the idea that *we* may possibly be wrong. A card was brought me just now from a man who says he sent an order for grape sugar, and hopes we are gentleman enough to send it along at once. Inasmuch as it is the first thing we have ever had from him, it seems a little rough. Right under my hand is a letter from our friend P. F. Rhody, New Castle, Ind., containing \$7.00. The address on the envelope is as follows, not a scratch of the pen more:—

*Mr A I Medina
Ohio*

As the letter reached us, it seems to me the postal clerks ought to have a medal for their skill in deciphering what is wanted by the people; and it should be something more than a leather medal too. Just imagine them, while hurried with business, guessing out that a man by the name of "Medina," who lives in the broad State of Ohio (the *whole* State, mind you, no particular county), was your humble servant! Shall we not at least give them a vote of thanks, and promise to do our part better?

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

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NOTES FROM THE BANNER APIARY.

No. 13.

LATE QUEEN-REARING.

SINCE friend G. M. Doolittle's article, "A Proper Time for Queen-Rearing," appeared in the Oct. No. of the *A. B. J.*, several correspondents asked for my views upon the subject; and, as I consider the subject one of importance as well as of general interest, I take this method of replying.

In the first place, let me say, that friend D.'s ideas are good, and that to *some* bee-keepers and queen-breeders it is quite probable that the "coat will fit;" but, although I agree with friend D. in many of the ideas that he advances, I *do* think it is possible to rear just as good queens in September and October as in June and July. Of course, if weak colonies or old bees are set to building queen-cells, or if the bees are not fed when no honey is coming in, we might reasonably expect that the queens hatched would be "poor sticks;" but if full, strong colonies, containing plenty of young bees, have all their brood and their queens removed, and are then given a comb of larvae, *just hatched*, and if they are fed plentifully when no honey is coming in, my experience has proved, that just as good queens can be reared in autumn as in summer. And I will tell you *how* my experience has proved it: During the last three years I have made a specialty of queen-rearing,—devoting almost my whole time to the business; and, during June and July, tested queens were frequently removed from full colonies, and their places filled by young queens that were reared during the height of the honey season, while swarms made up by uniting nuclei the last of October were supplied with queens that had just commenced to lay, that were probably hatched Oct. 15th. Now, in the prolificness or longevity of these queens, taking them upon an average, I have never been able to detect any difference.

Friend D. raises fine comb honey, and he will, of course, admit, that he has opportunities to learn the details of his business that he would not have if he made a specialty of raising bees or queens; and I think he will also admit that we queen-breeders have greater facilities for learning facts in regard to our specialty than has the bee-keeper who raises honey. For instance, friend D. says, by the loss of old queens he has had queens reared out of season,

none of which proved to be efficient layers for any length of time. Friend D., were these queens *always* reared in full, *strong* colonies? You know, before a queen is superseded, she quite frequently shows her lack of prolificness to such an extent that her colony is somewhat reduced in numbers. And were these colonies always fed plentifully when they were rearing queens? If some of these colonies were weak, or if they were not fed when no honey was coming in, how do you *know* that good queens can not be reared out of season?

A great deal has been said about "following nature." When, by having cells built in good, strong colonies, and by feeding the bees liberally, we succeed in rearing good queens out of season, we, of course, do not follow nature. But when the farmer controls the breeding of his domestic animals, does he follow nature? When the fruit-grower prunes his vines and trees, does he follow nature? When the poultryman keeps only young hens, gives them warm quarters, feeds them plenty of food, and gives them a few stimulants, and thereby causes them to "shell out" the eggs in mid-winter, does he follow nature? When the bee-keeper prevents the overproduction of drones, does he follow nature? And when he furnishes his bees with comb fdn., does he — but, hold on! I believe friend D. has expressed his doubts as to whether fdn. *pays* or not. But never mind: if he does doubt its profitability, there are hundreds—yes, thousands, of bee-keepers who *know* that it pays, and pays *big* too.

If you wish to rear queens late in the season, you must begin to unite your weaker nuclei as soon as Sept. 1st, and by Oct. 1st each nuclei must contain at least three frames, and should be *just crowded* with bees. The bees must also be fed in *some* manner. If queens in some of the nuclei become old enough to lay, and look as though they would lay some time, and still they *don't* lay, then remove the queens from some full colonies, and introduce these queens in their places, and they will usually commence laying in two or three days.

And now, just a word or two about

THAT PICTURE.

Of course, wife and I were very much pleased to see the *Banner Apiary* so nicely pictured out in *GLEANINGS*; and—but, now, friend R., hold your ear close, while I whisper it to you *confidentially*: we

used to laugh just a little at the pictures of some of the folks in some of the views of apiaries that you have so kindly given us, but we will never do so again; *never*; we won't even smile.

W. Z. HUTCHINSON.

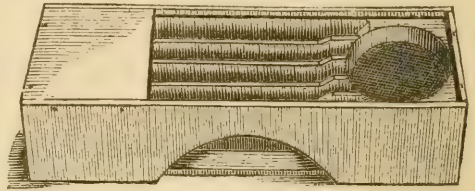
Rogersville, Genesee Co., Mich.

Now, a word, friend H., in regard to our drawings. It is very expensive business having wood-cuts made so accurately that the human figures on a landscape are accurate to life, or even fair-looking specimens of the genus *homo*, if scrutinized *too closely*. The one who has been pictured usually feels badly about it; but the great mass of the reading public, who take in the general effect of the whole, seldom find any thing wrong. If you look at the picture of our house apiary in the A B C, you will see that Miss Maud has been pictured—I really dare not use the words she did when she first saw the picture. It is so bad that I complained to the engravers; but they said it was not to be expected, that human figures, at such a distance, should be at all accurate; and, as the picture cost a deal of money, I let it pass. No one has ever noticed it since, to my knowledge. I have tried engravers in all our different large cities, but they seem to average about the same. The one in the present No. is better, but the figures are large, and in the foreground, and I paid extra for it, besides. Friend H., I think I am safe in saying, our 5000 readers are well satisfied with the happy, homelike appearance you and the twins present as you look up to us smilingly and with animation, after your morning exercise. I have just had another look at it, and, if you all look as bright and happy when I come to see you as the ideal I gather from the picture, I shall be well satisfied.

AN IMPROVEMENT ON COVERED SIMPLICITY FEEDERS.

ON page 140, April No., 1878, I mentioned the covered feeders of F. McNay and J. C. Dickinson, and remarked that the latter had a pane of glass over the top, so the apiarist could always see just how the feed was being taken,—whether the bees were getting daubed, whether the feed was too thick, etc. This feeder was made to set over a hole in the honey-board, and the feed was poured in by an auger-hole, in one end. Well, I believe the handiest way to feed in warm weather, has been found to be to place the feeders before the entrance, for we then need not open the hive at all, in going around with the feed, nor do we have to bore any holes in the hive when we wish to attach a feeder. Even a frame of candy hung in the hive has its objections, for it makes the space larger, when the bees should be contracted to a few combs, and we have been considerably troubled this fall by having combs built in place of the candy, as soon as it was consumed. On this account, a feeder outside is best, especially after you have squeezed the bees down to only a few combs, as we want them for winter. Well, now, to uncork and cork up an auger-hole is considerable trouble, or even to move a tin slide, when robbers are about. The novel part of

the feeder below, consists in using a sheet of glass that slides back and forth so as to cover or uncover the little round hole through which the feed is poured, and yet let no bees out.



GRAY'S COVERED SIMPLICITY FEEDER.

The sheet of glass is omitted in the engraving, but it slides in the grooves shown, and the end opposite the filling-place slides under the little wooden board which covers a small portion of the feeder. The glass moves so easily that it will fall from one end to the other, as the feeder is tipped. The operation of feeding is only to go round with your coffee-pot of syrup, and fill them up wherever you can see through the glass that the feeder is empty. Slip the glass back with your finger, fill up, and then close. No syrup goes over the backs of the bees, because the wire cloth lets it through only under their feet. It is all made of one block of wood (with a wabbling saw), except the little board over one end, and the strip that holds the glass from being dropped out and broken, at the other end. Making these feeders will be fun for the boys this winter. We can furnish them for 15c complete, or 20c neatly painted. If wanted by mail, add 10c for postage.

Reports Encouraging.

HEREIN inclose my report for 1880. After sending you my report last spring, I lost four colonies. When the season opened, a part of our apiary was weak. I ran all the strong stocks (about half the apiary) for box honey. They have averaged 100½ lbs. per colony. Honey sold at 12½¢ and 13½¢ per lb., all in 5x5 boxes. Stocks run for queens have not brought in so much money, and are not in as good condition for winter; but they were much weaker last spring. I have had only one swarm this season, and as I have sold a great many bees by the pound and in nuclei, I shall go into winter-quarters with only 40 colonies. I have not done *bad* this season, but not as well as I expected.

Plainfield, Mich., Oct. 25, '80. F. L. WRIGHT.

I am well pleased with GLEANINGS. I have 40 stands of bees; no increase this year, and have not taken one pound of surplus honey; yet I am not discouraged.

H. W. HITT.

Merrill, Scott Co., Ill., Oct. 19, 1880.

Friend H., I marked your report for Blasted Hopes; but after I saw your last clause I thought you deserved this department for your hopeful spirit, even if you haven't got any honey.

My report is: Started with 18 medium and 4 nuclei; white clover very poor; very little honey and

few swarms. Buckwheat pretty good. I increased to 28, and took 870 lbs. box honey and 30 lbs. extracted from sections; total, 900 lbs. Best Italian, 76 lbs.; best hybrid, 77½ lbs. No swarms; and best black, 85 lbs., and one swarm. The Italian and hybrid had some brood taken away, and the black had some given it.

There is rather more than an average crop of honey here. Those who gave their bees the best attention have averaged better than usual, while the careless ones are *vice versa*. I have an order for a Novice smoker next spring, from a box-hive bee-keeper. I think it is the boss. J. B. CASE.

Baptisttown, N. J., Oct. 21, 1880.

MY REPORT FOR 1880.

Started with 150 stands; increased to 155; took 5800 lbs. honey—3200 extracted, 2600 comb; and, thanks to Honey Column in GLEANINGS, honey is about all sold—extracted at 9c per lb., and comb 13 to 15c.

One stand Italians; remainder blacks and hybrids.

ROBERT QUINN.

Shellsburg, Benton Co., Ia., Oct. 12, 1880.

Pretty good, friend Q., for this poor season; almost 40 lbs. to the hive, from an apiary of over 150.

DOES BEE-KEEPING PAY ON AN AVERAGE?

I herewith send you my report for the last six seasons, in order to show you what I have done, taking the seasons as a whole.

WHAT I HAVE DONE WITH BEES SINCE 1875.

	No. of colonies at beginning of season.	Increase.	No. pounds Extracted Honey raised.	No. lbs. Comb Honey raised.	Total No. lbs. raised.	Average to Col. only.	Average price per pound for Extracted.	Average price per pound for Comb.	Received for my Crop.	Money invested in Bees, Hives, etc., and Expenses.
1875	2	2	82	82	164	82	10	10	10	\$ 7 58
1876	2	2	94	94	188	94	10	10	10	20 70
1877	14	10	1306	1306	2612	2612	18	18	239 70	247 90
1878	16	6	94	1373	1467	93	10	16	234 78	87 86
1879	21	23	184	1369	1553	74	10	18	265 82	95 00
1880	62	33	540	3219	3759	60	10	17	603 00	210 00
Total	115	75	818	7319	8137	70½	10 17 1-3	\$135 36	\$668 11	

Notes on the above table:—

In 1875 I purchased one swarm in July, and another in December. In 1877 I purchased 10 colonies. In 1878 I let out, on shares, 8 colonies. I had, in the spring, 24; but, by letting out 8, it left me 16, with which to begin the season. In the spring of 1880 I bought 20 colonies. Under the head of "Money Invested in Bees, Hives, etc.," is the amount I have paid out for bees, hives, fdm., and all bee implements, and also includes expenses of running the apiary.

I have taken the six seasons as one grand season. As you will see by reference to the above table, it is only to show what one might reasonably expect if he should have 115 colonies at the beginning of the season. The footing of the column (Money Invested in Bees, etc.), will not apply to the above; but it might be safely said that \$300 would run an apiary of 115 colonies, buy the extra hives, and whatever would be needed. F. A. SALISBURY.

Geddes, N. Y., Nov. 8, 1880.

The Holy-Land queen purchased from Jones through you is the most prolific queen I ever owned. She has now four frames over half filled with brood, and that without being fed. Her daughters are the most uniform of any I ever raised from any queen. The bees get cross earlier in the fall than Italians. While gathering honey they were very gentle.

Nappanee, Ind., Oct. 20, 1880.

I. R. GOOD.

I have 900 lbs. surplus from 24 stands, all black. Honey retails here at 16c. T. F. SHEPHARD.

Town Hill, Luzerne Co., Pa., Oct. 16, 1880.

My hives, 20 in number, gave me an average of 50 lbs. this season, and I am confident, with care they will always do as well, for this was a poor year.

Oxford, Pa., Nov. 8, 1880.

S. W. MORRISON.

On May 31st you sent me a queen, 1 lb. of bees, and a frame of brood. I was rather disappointed in not receiving them until June 2d; but now they have filled their 10 combs with honey, and seem quite crowded for room. I have had no increase this year, and have taken about 80 lbs. of comb honey from 2 hives. I hope to do better next year. Thanks for the information about the worms. I was very stupid to overlook it in the A B C. H. L. RAND.

Boston, Mass., Oct. 26, 1880.

In the spring I had 6 stands of bees; increased artificially to 13; no natural swarms, as the season was too dry. Four of them didn't make enough to winter on, and so I gave them frames from others; but the 13 stands averaged 180 lbs. of honey to the stand; 2 of them made as high as 300 lbs. each; the pound of prolific bees and queen I got of you last June filled a 1½-story hive solid with honey.

H. H. C. BREECE.

Greenwood, Fremont Co., Col., Nov. 4, 1880.

I started with four colonies of bees, May 1st, 1880. One of them swarmed May 7th, and went to the woods when I was away from home. They did not "go west" this time, but went east. I got from the rest, 77 lbs. of comb honey, and 290 lbs. of extracted honey, and increased to 7 colonies, and all have plenty to winter on. Honey sold for 20c for comb, and 15c for extracted. The flow of honey was good up to the middle of June; but after that, no more till buckwheat and goldenrod came. But it is called a very poor season for honey, by old bee-keepers in this section. Some have not taken any surplus honey. C. M. TRUNKY.

Vernon, Trumbull Co., O., Nov. 9, 1880.

BEES ON SHARES.

The bees I took on shares did better than the bees of the neighboring bee-keepers. I still have the same number of swarms. There was no natural swarming at all; made 4 new ones, lost 2, doubled the other two with a couple of weak swarms. I lost all the empty combs, although I fumigated them in empty hives faithfully. The lower stories are all full of honey. I had nearly \$50.00 worth of surplus. One old bee-keeper, whose farm is not far from here, lost 100 swarms—starved to death, and no one in this vicinity, except myself, had a pound of surplus; and, although losing the combs was a drawback (lost them during a five-weeks' sickness), I do not consider my work a failure, and I hope I shall have the opportunity of practicing next year what I have learned in regard to bees this year.

Mrs. E. S. CAIN.

Hillsdale, Rock Island Co., Ill., Nov. 4, 1880.

MORE ABOUT "FROM ONE TO 41, IN TWO SEASONS."

I see that what I wrote you about my bees was put in Nov. No., p. 549. I did not think of your putting it in GLEANINGS, but it is all right. There are many here who know that it is so. Now, the first year, I made 8 swarms, and the old one was nine to winter on, from them I took 134 lbs. of honey, and fed some sugar in the fall. That was for the year

1879. Now for 1880. I had the 9 hives in the spring, and made them up to the 41, and took 600 lbs. of honey, and fed some sugar in the fall. Mr. Root, it will be hard for you to beat me much; for if I take a notion to do any thing, I go at it to win.

E. CORLETT.

Cumminsville, Ont., Can., Nov. 5, 1880.

That is exactly the right way to go at it, friend C. You see, I guessed pretty nearly right when I calculated, last month, that you must have made at least 6 or 7 the first year, although you got as high as 8 new ones, and 134 lbs. of honey besides. I declare, I wonder if we had not better emigrate to Canada—a lot of us. Friend Jones seems to have wonderful yields year after year, while we are all in Blasted Hopes down here. Hurrah for Canada, the land of snow and frost, for bees and honey!

DEPOSITORY OF

Blasted Hopes.

Or Letters from Those Who Have Made Bee Culture a Failure.

PACKAGES received, and directions followed. For results, I respectfully refer you to page 284, A B C. Rub out all the hives but two, and—"that's me." T. J. HARPER.

Atlanta, Ga., Nov. 4, 1880.

Our friend had a dollar queen and an A B C book. After getting the above pathetic postal, I turned to page 284, and found this picture, which we produce.



Don't cry, friend H.; your queen was only a dollar one; and, as you have got your book left, you are about as well off as the woman was when the bottom fell out of her tub. She said she could then "see through it" all as plain as day. We will send you another next summer free, if you will mention it.

In examining my bees I see that they are without stores for winter. They have eaten up all their honey within the last six weeks, it is so dry.

REV. JOHN MCKEAN.

Lewistown, Mifflin Co., Pa., Oct. 12, 1880.

Please do not entertain a thought that this year's business in the apiary furnishes the "sinews of war," which occasionally find their way from me to dealers in supplies, for the reason that I have yet to receive the first dime from this year's sales! True, I have received as much on an average as 6 or 8 lbs. of honey, in small section boxes, per old stock! This is most astonishing, but not half as much so as the report, "Honey is quite plenty on the market now, and prices have taken a tumble." From zero, eh?

Koshkonong, Wis., Oct. 15, 1880. D. P. LANE.

This has been such a poor honey year that I can not afford to send for GLEANINGS again. From my apiary at home, of 70 stands, I did not get 1 swarm, and no honey until buckwheat season, and then only a few pounds.

PHIL OSBURN.

LeClaire, Scott Co., Iowa, Oct. 30, 1880.

Very sorry to part company with you, friend O.; but we tender our thanks for past patronage, and wish you success with the bees all the same.

I am in the bee business. Am making a living at—raising early potatoes for market, and other minor pursuits. Have taken about 40 lbs. of honey from 20 swarms this season; increase, one swarm. Have helped out several black swarms on winter stores from their yellow rivals. Season very poor. Many black swarms in this vicinity will starve before spring unless fed. PRESCOTT UNDERWOOD.

Lawrence, Douglas Co., Kan., Nov. 8, 1880.

Humbugs & Swindles,

Pertaining to Bee Culture.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

THIS department seems very near being left without any occupant this month.

We have heard nothing from Mitchell for quite a long time; and Mrs. Cotton, it is said, has sent some sort of an equivalent for all money sent her during the past year, except the book, and the book is to be out soon; or, at least, so her publishers say. A copy of the drawing for building her hive has been sent me, and that, at least, is pretty well gotten up; but as \$4.00 is almost enough to buy all the standard works on bee culture, it would seem a pretty good price for the contents of a book of only four leaves. However, as it answers pretty well to the advertisement, we can easily let that part of it go. All that remains is for her now to pay up old scores, or account for the money sent her previous to the past season. If she will undertake to do this, and to send, in future, all she advertises, we shall all be glad to lend her a helping hand. She says my dollar was returned to me a long time ago; but as it is only just now that she has made such a statement, it looks a little singular. I sent it to her by P. O. order, that I might be sure she received it; and it seems to me that fairness would say it should be returned in the same way. I will willingly give her this dollar, and several

more with it, if she will make a satisfactory settlement with all her customers.

All persons who have sent money to Mrs. Cotton, for which they have received no returns, neither in the shape of money nor goods, are requested to send particulars to R. E. Holmes, Cash. Hurlbut Nat. Bank, West Winsted, Ct. Bear in mind, that this gentleman does not care for transactions where the parties did not receive what they expected, but only those where she has kept the money and returned no equivalent whatever. Neither does he want facts from those who have sent for her recent book, for the book is, I presume, now in the hands of the publishers; or, at least, a printed statement has been sent me, purporting to come from her publishers.

The card below, in regard to the old division-board swindle, should have had place several months ago:—

I write you to know whether or not there is a patent on the division board now in use by all bee-keepers. There is one King, in Northern Georgia who claims he has a patent, and intends to prosecute all who are using the board, unless they pay for it; in fact, a great many farmers have paid him \$5 00 for the right. By answering, you will greatly oblige many of us. J. B. TRAVIS.

Atlanta, Ga., May 19, 1880.

I trust no one is, at the present time, making any such absurd claim, or trying to frighten people by it into handing over their money. No patent at all, friend T.; never was, nor ever can be. See our back numbers.

DOOLITTLE ANSWERS QUESTIONS.

WE see, by November GLEANINGS, that Doolittle is called upon to answer a few questions; and, as we are always willing to impart all we know of the bee trade, if it will be of benefit to our fellow apiarists, we hereby answer to the best of our ability.

We are asked, on page 524, what our honey sold for, as it was omitted in our report. We did not report the price, for the reason that, since the death of Geo. H. Roberts (our honey merchant at Syracuse, N. Y.), we have been obliged to ship our honey on commission. We shipped to four different houses—three in New York, and one in Buffalo. Up to date, we are advised that a little of it has been sold at 22c; more at 20, and a still greater share at 18; the highest price being obtained in New York. As commission and expense of getting to market amount to about two cents per lb., the net returns will be proportionally less.

On page 525 we read, "Doolittle advises to extract the honey remaining in the sections, etc." So we do, if our bees all have sufficient stores for winter; but, as a rule, all do not, and so we adopt the plan as there given, of letting the bees take it below. They are thus fed just what we want them to have, and the sections are much cleaner than they come from the extractor. Instead of letting the bees do the uncapping, we do it for them, and then the combs are always emptied, which is not always the case if the bees are left to uncap them.

On page 529 comes some pretty tough questions, for the reason that we do not relish answering ques-

tions that we don't understand ourself. Novice says, "Our A B C class would like to know just how you disposed of the 30," that being the difference between the fall of 1879 and spring of 1880, showing a loss of 30. "Did you sell any?" Yes, just one. "How many were lost in winter?" Six in bee-cellar, six on summer stands packed in chaff, or 12 in all. "Why were they lost?" Now you have got us, and we might just as well say candidly that we don't know, as to theorize on poor honey, too much cold, dampness, and a hundred and one other things that tend toward the destruction of bees in winter. It was simply this: *they died*. We never claimed to know how to winter bees without loss, and told you all we knew of the matter about a year ago in the A. B. J., to which some felt disposed to take exceptions. We have never been enabled to find a satisfactory reason why one of two stocks should die before spring, and the other come out in good order, when both set side by side, and were as near alike in the fall as two peas, as far as human ken could discern; neither have we found any other apiarist who could give a satisfactory reason, although we hope such will be the case ere long. In 1878 we prepared 90 colonies (mostly packed in chaff) for winter on summer stands, and our neighbor Cotton, half a mile away, prepared 20 in the same way. In fact, we helped him prepare them the same as ours were; and in the spring of 1879 we had 19 left of our 90, and he came out with the whole 20 in good order. Now, who will answer, "why were they lost"? Out of 60 put into the cellar the same fall, 56 were taken out in good order. So, to be on the safe side, we winter half our bees in the cellar, and half on summer stands. Well, but what was done with the other 17, as you have told us of only one sold, and 12 lost in winter? We looked our bees all over, and selected out the 34 weakest, and in due time they were doubled up so as to make 17 as good swarms as the very best, and thus we had 70 to start the season with. If it is desired, we will give our plan of doubling colonies, both in fall and spring, at some future time. G. M. DOOLITTLE.

Borodino, N. Y., Nov., 1880.

Many thanks, friend D. That is exactly what we do wish to know; and, in fact, we wish to know all about everything you do with your bees, especially so long as you make such a sure, safe, and certain business of it as you have done in times past. I am sure that more than one of us have felt a deep interest to know about your losses, which you have mentioned in this; for, if you lose now and then, in spite of the best care you know how to give the bees, we shall be less likely to get discouraged, even if some of our best-laid plans fail occasionally. Items from actual experience, by our successful honey-raisers, in both failures as well as successes, are what we look anxiously for.

TOBACCO COLUMN.

IN your last GLEANINGS I saw where you stated that if any one would quit smoking tobacco you would send them a smoker; and as I generally smoke a pipe when I am tending to my bees, I thought I would send to you for one smoker on the terms mentioned in GLEANINGS.

Oct. 21, 1880.

SAMUEL YOUNG.

Glad to hear it, my friend. I do not know

but I shall learn to think such investments as these as good ones as was the watering-trough. May God help you to be true to your pledge, so that I shall never get any other pay for smokers, except the consciousness of having given you a start in a safe direction.

You can send me one of your smokers. Away goes the pipe and tobacco! Of course, if I ever return to the habit again, you shall have pay for your smoker.

J. J. SIMPKINS.

Summerfield, Ala., Oct. 21, 1880.

I am ready to take a smoker on the terms offered in last GLEANINGS, by throwing tobacco and pipes away. I have used them 18 years.

D. H. LATHROP.

Shian, Adams Co., Iowa, Oct. 25, 1880.

Come to think about it, I guess you had better put in a smoker, as I quit smoking tobacco, Oct. 16, 1880, —50 years of age.

R. H. RHODES.

Arvada, Jeff. Co., Col., Oct. 19, 1880.

May God bless and strengthen you all.

MR. MERRYBANKS AND HIS NEIGHBOR.

MR. M. has had his bees all nicely packed up in chaff hives, and put away for some time; but not so with his neighbor. He kept thinking he would get at it before long, all through the fall; but as it began to grow cold, he finally struck upon the bright idea of having the boys do it. They had plenty of time, and so they would be sure to do it all right. His bee journal had stopped, and so one morning he determined to send on 25 cents and have it started again, so he might see who got into Blasted Hopes; and, as he sits down to write the letter, he remembers his own bees. I shall have to explain, that the young people whom we saw last month getting acquainted after they got through discussing the flower, went over to friend Merrybanks', and Mary, the little girl, finally loaned Freddie one of her 5-cent Sunday-school books, and as soon as it was brought into the house, one after another of the family picked it up and read it through, as if they were starved for such bright-looking story-books. Well, John was just then right in the midst of the book, which happened to be "Gutta-percha Willie," and he was too, deeply interested about that water-wheel Willie made, to wake him up mornings.

You remember John as the boy who brought the bee-hive when the bees were swarming. Well, all at once his father looked up and said,—

"John, did you fix those bees in a dry-goods box full of chaff, as I told you,—the way it said in that last bee-journal?"

"Why, father, I didn't have time that day."

"Well, then, why did you not do it the day after?"

"Why, it rained the day after."

"And you mean to say that nothing has been done about it after all this time, and the thermometer 8 degrees below zero?"

"Why, you said if they were out of honey I should give them some candy; and mother said there wasn't any sugar to make candy of."

"And so you let them stand, without ever looking at them?"

John looked troubled. As there was nothing to be said, he thought the best thing to do was to say nothing; and so he only hung his head and fumbled the leaves of his book.



JOHN GOING TO FEED THE BEES.

"Well, sir! put down that book, and go this minute and fix those bees up as they should be."

Poor John! All his enjoyment has gone, and as he buttons his scant coat about him, and prepares to brave the elements, he mentally wishes that father wouldn't be so cross, but would come along with him and show him how, and see if the work be well and properly done this cold, freezing, stormy day in November, and then write his letter for the bee journal afterward. Poor father! for, as he tries to write his letter, he discovers that he is unhappy too. Just at this crisis, friend Merrybanks comes along. But as this story is getting long, I think I shall have to wait until next year before I tell you how he brought sunshine—yes, sunshine, even while the wind was blowing the snow in at the open door, and the thermometer below zero—to both father and son, on that cold wintry morning.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POST-PAID.
FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, DEC. 1, 1880.

AND I will bring the blind by a way that they knew not: I will lead them in paths that they have not known: I will make darkness light before them, and crooked things straight. These things will I do unto them, and not forsake them.—ISA. 42: 16.

THE departments of Bee Entomology and Botany, though quite full, are both crowded out of this No.

THE Indiana State Bee-Keepers' Society meet in annual session at Indianapolis, Jan. 13 and 14, 1881.

P. O. STAMPS, any quantity, of any denomination, are at present as good to us as cash. Ones preferred.

WE can furnish forks, best triple plate, on nickel silver, to match knives on page 564, for \$4.00 per set. By mail, 20c. extra.

THE following shows how the \$4.00 watches please. I received the Waterbury watch this evening, and think it a perfect beauty. It will sell itself. It seems strong and durable. Inclosed is check for \$32. Send me eleven more by express. I want them for Christmas.
P. A. MORGAN.
Arcadia, Wis., Nov. 24, 1880.

PLEASE, friends, do not write us to continue your subscriptions, when you have sent the money to some one else. It complicates matters in a way you have no idea of, and very often some one "gets mad" before it is all fixed.

FRIEND DOOLITTLE's comments and review of the A B C book are completed; and, as it contains many valuable hints and suggestions gleaned from his experience in honey-raising, it will be given complete, commencing in the January No.

WE have enlarged GLEANINGS to 60 pages this month,—8 more than usual, to accommodate the index, and also to give you the counter list once more, just before the holidays. It will probably appear no more, except in the price list.

WE have got out a new mandrel for foot-power saws, which we shall illustrate next month. It will hold the same saws as our \$5.00 mandrel, but will cost only \$2.75. By mail, 50c extra. It runs on steel points, and runs easier than the \$5.00 one.

WE close the year with 5049 names. Inasmuch as the honey crop has been so poor, I can hardly hope to have the subscription continue up to its present number; but whether you renew or not, my friends, please accept my most earnest thanks for your kind support thus far.

THE BLACK LIST.

WE have no more names at present as candidates for the Black List; but several names have been sent us that are under investigation. Unless they make some sort of a reply before next No., we shall have to give their names.

WE are expecting daily some California honey from friend Wilkin. It is to cost us 10c, delivered here, and we are making preparations to put it up in tins, so that, when ordering goods from us, you can, if you choose, have a 2-lb. can of California sage honey put in as sample for only 28c.

ON all orders for goods received during the month of December, for any thing on our price list, of whatever nature, we will give a discount of 3 per cent, *providing you mention the matter when you make the order, and refer to this notice.* No discount will be allowed unless you do this.

THE following was received just too late for the Honey Column:—

For sale, 5 bbls. of clover and basswood honey, mixed, and one bbl. full honey, very light. Price 10 cents on cash here. Barrels hold 360 lbs., iron-hooped, and waxed.

J. J. SWARTWOUT, Union City, Branch Co., Mich.
Also 5 bbls. clover and basswood honey, mixed; barrels hold 360 lbs., iron-hooped, waxed, and painted.

F. R. JOHNSON, Union City, Branch Co., Mich.

THE following advertisements were received after our advertising pages were printed:—

For \$1.10 I will send the "American Agriculturist" for 1881. Three subscriptions, received at one time, \$1.00 each.

Geo. O. TOMPKINS, White Plains, Westchester Co., N. Y.

DO YOU KEEP BEES?

Then subscribe for the "Bee-Keepers' Exchange," an original, valuable monthly. Price 5 cents per year. Sample free. Send for our Empire Club List before subscribing for your periodicals, and save money. Address J. H. NELLIS, Canajoharie, Mont. Co., N. Y.

FRIEND NELLIS has very kindly proffered the Peet cage, or any of its desirable features, to anybody who chooses to make them. It will be but a small recompense to friend Peet for his ingenious contribution, to style all cages after that pattern,—PEET queen-cages. Our thanks are also due friend Nellis for his agency in bringing it out, and adding to its desirable features.

GLEANINGS FOR 1880.

AS we have a large quantity of back Nos. on hand, we will send the entire volume for 1880, postpaid, to any address in the U. S. or Canada, for 75c., if ordered *before Jan. 1st, 1881.* None will be sent at this price if the order reaches us *after Jan. 1st,* as our reason for offering them so low is, that they will go at pound rates of postage *until* that date.

DR. CHASE'S RECEIPT-BOOK, AGAIN.

OUR notice of last month brings out the fact, that the book published at Ann Arbor, Mich., claiming to be the original Chase Receipt-Book, is a sort of swindle, and patent-medicine advertisement, gotten up by said Beal. Dr. Chase is in Toledo, O., and we can mail the genuine book to any of you on receipt of the price, \$2.00. No wonder I thought the doctor had degenerated!

INK.

AFTER trying a great many kinds of ink, we find none that stand all tests like "W. O.'s." If more convenient to order of us, when you are getting other goods, we can furnish it at his prices. The ink made of the ink-powders advertised in this number, is excellent in every respect, except that it dries up quicker, having only water for the liquid portion. We can furnish the powders also. See 5 and 25 cent counters.

IT will be observed, that some of our honey quotations are old. This is because no reports came in by the time we went to press. Thurber has just replied as follows:—

Best white honey, small, neat packages, 17@19c; fair do., 15@16c; dark do., 11@13c; large boxes about 2c @ 1b. 10ss; white extracted, 9@10c; dark do., 7@8c; Southern strained, 8@9c. Market a trifle weak, with indications of lower prices.

New York, Nov. 14, 1880.

A. Y. THURBER.

Still later:—

There is little change to note in honey, comb or extracted. We quote: Comb in 1 and 2 lb. sections, choice, 19 to 21; medium, 16 to 19; extracted, selling 9 to 11. Demand good for both comb and extracted. Beeswax, steady at 21 to 22¢.

St. Louis, Nov. 23, 1880.

R. C. GREEN & Co.

PERIODICAL SUBSCRIPTION AGENTS.

MY friends, I hardly know what is right in this matter. Some of you, in sending to me for goods, say like this: "Mr. Root, I want all of these things, and I think I can trust you to furnish them to me as low as anybody does." If I charge him a dollar for GLEANINGS, he may say that others advertise it for only 90c. If I charge him 90c, why should I not let you all have it for the same? Simply because I could then give no commission at all to the kind friends who work hard to get up clubs. What is right and Christian-like all round? Who will tell?

PREMIUMS FOR SUBSCRIBING EARLY.

EVERY subscriber who remits us during the present month of December, for GLEANINGS for the year 1881, may have his choice of any article on the 5c. counter, providing you mention it at the time you send the money, tell us which article you choose, and send along the postage.

WE offer no premium for any single subscriber after the first of Jan.

To avail yourself of these offers, you must comply with the conditions named. Do not tell the clerks to pick out your premiums themselves, and do not omit the postage; for we want the whole business so that we can go right along as rapidly as we can handle the goods, just as we did with the counter store on the fair grounds.

This offer is now also made to those who subscribe in clubs as per first page of reading matter, if sent before January 1, 1881.

DOING HOUSEWORK BY MACHINERY.

In preparing the Home Papers for publication, I was quite stirred up again by reading my own writings of a few years ago, in regard to economy in the use of foods of different kinds. Well, the expense of preparing is often quite an item, as well as the first cost of the raw materials. After a good deal of study, and asking God to help too, I became satisfied that our daily food could be cooked and served much on the same short-cut idea that has been developed in the counter store. One of our girls agreed to undertake it, and the room formerly occupied by the counter store, before it grew too large for it, was christened "Home of the Honey Bees Lunch Room." Right near the counter, where people are served, rises a steam-pipe, connected with the boiler of our engine. The pipe curves downward just over an iron sink. When any article is to be cooked or boiled, a jet of steam is simply turned on or into it. By this means a cup of coffee may be made fresh, almost while you are giving the order, and a dish of oysters may be served almost as quickly. When the customer is gone, all dishes are cleaned by this same jet of steam in a twinkling, and go into the cupboard of the counter out of sight in about the same time. Perhaps you would like to see our bill of fare. Here it is:

HOME OF THE HONEY BEES
— LUNCH ROOM. —

Clover Honey in Comb.		
Clover Liquid Honey or		
Clover Honey Canded.		
Basswood Liquid Honey or		
Basswood Canded Honey.		
Either of the above, with Biscuit and Butter	-	5c.
Boston Baked Beans, per dish	-	5c.
Glass of Milk (large)	-	5c.
Hot Coffee	-	5c.
The Celebrated Boston Codfish Balls, per dish	-	5c.
Boiled Eggs and Picadilly Sauce	-	5c.
Oranges	-	5c.
Ginger Snaps, Lemon Crackers, Oat-Meal Crackers,		
or Cream Soda Crackers, per ½ lb.	-	5c.
Comb Honey by the lb.	-	20c.
Liquid or Canded Honey per lb.	-	15c.
Oysters, per dish	-	10c.

The public are always welcome.

Nov. 6, 1880

A. I. ROOT.

How can it all be done at the prices? Well, for 5c we give ½ oz. of honey, ½ oz. butter, and a biscuit; the net cost of which, at the baker's and grocer's, is 3c, and we have 1c profit, and 1c for cleaning up the dishes for the next customer. Our 10c dish of oysters is 1 gill of the bivalves, 3c; ¼ lb. crackers, 2c; ¼ pint of milk, ¾c; ½ oz. of butter, ¾c. Total, 6½c. You will observe, that with these small lunches we insure having it all eaten up, so that nothing is left for the—shall I say swill tub? We don't have any such thing here, and no occasion for any. If anybody wants more, why, they can have just as many lunches as they choose. I often take my meals in the lunch-room when hurried, and 10c gives me a full meal—all I want, and perhaps more than I need. The very cheapest that anybody can get board in Medina is \$3.00 per week, without lodging, and if you wanted to get a girl to do ordinary housework, you might ride all day and not find one; and if you should try to hire one of the girls in our factory, whew! they wouldn't go; and the worst of it is, my story is too long. Girls are coming to me all the time for places, and I hardly think any of them would object to cooking food in our little lunch-room any more than they would to folding bee journals if they were treated as though they had souls to save. My God bless the girls of our nation, as well as the boys!

A CAUTION IN REGARD TO FIRES, AND THE USE OF OIL-LAMPS.

YOU will remember the friend who sent us the little brushes (see p. 376, Aug. No.) Well, that this poor friend and his wife may have our prayers in their great trouble, I give you the following:—

I told you a short time ago, I would send you a report of my bees and honey when I got done making honey; but I shall have to defer it for awhile, as I do not feel like writing anything about it now. I have told you that my back No's of GLEANINGS were destroyed by fire. I don't know as it is right to burden other people's minds with our own grief, but to us it is too unbearable. On Oct. 22d our house took fire and burned down, with every article of clothing and furniture in it. The fact that my wife and I saved only what we had on our backs is of but little consequence, for our four children (*our all*) could not be saved from the flames. They were in bed. We went out only a few steps from home, and left the lamp on the mantle, turned down to half its volume. It exploded, and in an instant the whole interior of the house was in flames. Although the first flash was seen, no one could get there quick enough to rescue even one child. In five minutes the whole building had fallen in. Our youngest a darling little boy, was about 2 years and 3 months old; the other three were girls—the oldest 11½ years old,—deep and mature in thought as a woman,—always at the head of her class in school. But I will not say more. My dear wife is still confined to her bed, and it will require a long time for her to recover from the shock. But we fully expect to meet them again in the future. Yours in grief, CHAS. BRIDGES.

San Fernando, Los Angeles Co., Cal.

This is indeed a terrible blow, my friends, and it is hard, I know, to say, "Thy will, not ours, be done." I thank God, friend B., for your concluding sentence. Hold on to that, and you will be sustained. We can not fathom, as to why God permits such events in life; but if we trust him, we may be able to see in it a call to us, not only to that heaven where these four innocent darlings have gone, but to some work he especially wishes us to do for him and for our fellow-men. Many a great mission worker has been led to his or her field through great trials and tribulations. I would suggest, that we all take this as a lesson; and while we appreciate the blessing of having these little ones by our side, as we have not done before, we take especial care of our lamps and the oil we burn. In our State, the explosive oils are prohibited by law. When you leave the house, a small brass lamp is safer than the large glass ones; and even a small glass lamp may be made safe by placing it in a wash-bowl, or even a wash-basin. If the lamp then breaks, the dangerous oil can not saturate the cloth and furniture. A little child was recently burned to death in our own town; and, years ago, I was once awakened in the night by the crowing of the baby. I rubbed my eyes and looked, and it was caused by the blazing up of the bed clothes, caused by an exploded or broken lamp. I put the fire out with my hands, without waking my wife, until it was about all over; but it gave me some blistered fingers. After that we used a small night-lamp, and set it in a wash-bowl. Of late, the letters coming saying some friend has been burned out, are getting quite frequent; and although it may be very small consolation, friend B., to tell you that you may, by your letters, have saved many another home, yet I offer it, such as it is. May the peace, such as the world can not give, but that only Jesus gives, come into your silent household!

Unto a hand flowing with milk and honey.—Ex. iii. 7.

Butter and honey shall be eat, that he may know to refuse the evil and do good.—Is. 7:13

The "Wrenchery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

BY the way, I think the counter goods do not by any means "fill the bill." For instance, your advertisement explicitly says, "Coe's wrench 35c;" but the wrench is not Coe's; it has no stamp, and is a *very inferior* cast-iron imitation, which is practically worthless. Advertisement also reads, "Thermometer, best, 10-inch, 25c." Now, I am not sure that I know how to measure thermometers; but I can not get 10 inches on this, unless I measure around the ring once or twice; for the body, by my rule, is but 7 inches long. The "Steel for sharpening knives," "good," is *cast-iron*. The 5c nippers broke in four pieces, at the third cut through four thicknesses of newspaper, the first time I took them into my hands. Now, friend Root, does your advertisement lead one to think that these tools are such as described, and as they *really are*, or does it lead them to suppose that they are really genuine, and as actually described in circular? Although I confess to having been taken in badly, yet it was my own fault in expecting to get a *good* article for less than it was really worth, although represented to be such; for a genuine article can not be afforded at the price of shoddy. But, friend Root, allow me to say, I think the claims in your circular are *rather broad*. Never mind. Please send the inclosed order all right, and we will shake hands over the past.

J. A. HOPKINS.

So. Oxford, Chenango Co., N. Y., Oct. 25, 1880.

Most gladly will I shake hands, and thank you too, friend H., for your very kind and gentlemanly way of making complaints. Now, as I make our defense, please bear in mind, that in all I say I am looking as pleasantly and good-naturedly as I would if you had been praising our goods all the time. When I started the counter store, Coe's wrenches were offered me so that I could sell them at 25c, and make a small profit on them. I sent for samples, and pronounced them satisfactory, and a large trade opened on them at once. I gave one of them to our engraver and he copied it, stamp and all. Then came the tremendous rise in iron, and I was told the wrenches were worth nearly double the money, like a thousand other things. I wrote to different manufacturers, and finally got what I called a very fair wrench, that I could sell at 35c. During the rush of business, I found it impossible to explain to customers why our goods were not what we advertised in the winter, any more than to say, in a general way, we had done the best we could, in view of the advances. I now find the price list of these 35c wrenches reads, "Coe's *pattern*," instead of "Coe's *patent*." The stamp put on is "Coe's *pat.*" meaning Coe's pattern; that is, that the wrench is after the style of Coe's wrenches. All my advertisements have been changed to Coe's pattern; and when I said Coe's wrenches, I did it ignorantly. Will you for-

give my carelessness? We sent a shorter thermometer, because the length could not then be bought for the price; but was it not, even at 25c, far below what you usually pay for a 7-inch thermometer?

The steel is *Bessemer* steel, made of cast-iron, it is true; but it is harder than the ordinary steel, as you will see by drawing across it the hardest-tempered knife you can find. If you will read the directions sent with it, you will find that it needs to be ground on a grindstone when dull. This conversion of cast iron into steel direct is a new industry that promises great things. Excellent shears are made of it already; but I do not consider them quite equal, as yet, to the faced-steel shears, and so do not offer them, except on the 25c counter; but our men of genius are working hard at it, and I have no doubt we shall soon have good steel shears for 25c, and other cutting tools in proportion. The 5c nippers are *nippers*, not *cutting-pliers*; to be sure, they would break as you used them. We have just put in the price list, "Not to cut with." A good cutting-plier is worth from 75c to a dollar. The 5c ones are to "nip" or pull things with.

The counter business is getting to be a great industry, and the old high prices for household conveniences are getting a blow that they will never survive. Complaints of the goods have been very few, if I except the wrenches and a few such items. In fact, my friends, I fear you have not complained enough. The tinware, I purchased and put in the price list as it was billed; but I do not know that any one has ever complained that the tin pans did not hold out full measure. In fact I did not know it myself until a dealer informed me that the 6-quart pans for 10c did not hold even 5 quarts. I went at once for a quart cup to measure; but lo and behold! some of our quart cups were not truthful. This is a very serious matter, my friends, and it ought not to be tolerated for a moment; no, not even if cups are *given away*. Lest you are too hard on the manufacturers, I will add, that some of their tinware overruns. The pint pails, for instance, held almost a pint and a half. In despair, I went to Webster's Dictionary, and found that a tin vessel 7 inches in diameter and 6 deep, holds just a gallon; and we are now trying to have all the tinware right; at least, I am going to try to tell you the real truth about all these goods; and I request it as a favor, that you tell me whenever you think any thing is not up to the recommend.

When goods advance, it always makes trouble; and especially is this the case where they are sold so close that a slight change leaves no margin; but when they go down, and we can send you a better article than we advertised, or send just as good, and advise you of a balance placed to your credit, it makes it pleasant all around; and not a few of you have been warm in your thanks, on being agreeably surprised in that way during the past few months. What I desire, would be that you may know me so well, that you will at once presume there is something to be explained, when you do not get just the thing you expected.

Boys' Department.

MY little sister found a swarm of bees on the hedge. My father took a box and bived them, and then went to friend Scovell's and bought one of his movable-frame hives, and put them in it, and got 40 lbs. comb honey. The next spring my father bought 5 more swarms in box hives, and transferred them; increased them to 20, and got 400 lbs. honey. That winter 2 swarms died, and we then started in the summer with 18; increased to 29; got no honey, but got enough to winter on. They wintered safely last winter. This summer we increased to 42; got 943 lbs. of extracted, and 280 lbs. in 1-lb. section boxes. We winter our bees on their summer stands.

I am a boy only 18 years old. My brother, younger than I, helps me take care of the bees. We did all the extracting.

DAVID KIRK.

Columbus, Cherokee Co., Kan., Aug. 15, 1880.

Pretty well done, friend David, both on the bees and making out a report. Why, if you continue to keep on at this rate, some of our big bee men will have to look out for their laurels. May God's blessing rest on the boys of our country!

I suppose I must report my honey crop. I commenced the season with two swarms; increased to five by artificial swarming. They are all Italians but one. I sent for a queen to Mr. W. Z. Hutchinson, but he could not fill the order, and now I will wait until next spring, and then send for one. Well, I have taken 90 lbs. of comb honey in sections and small boxes. The 5 swarms have 240 lbs. in their hives for winter. The greater part of the bee-keepers in this section of the country report almost a total failure for surplus. My honey is from buckwheat and Spider plant mostly. There are great quantities of buckwheat raised in this locality. There is no white clover nor basswood in reach of my bees. We had very dry weather here part of the summer. I intend to pack my bees with buckwheat chaff for winter. Which is the better, buckwheat chaff or oat chaff? I make rustic hives for winter, with 5 inches of space all around the hive, which sits inside of a rough box. Do you think they will winter prepared thus in this locality? I am but 16, and I send you quite an order for one of my age.

ALBERT OSBURN.

Spring Bluff, Adams Co., Wis., Oct. 21, 1880.

Thanks, friend O. Your plan of fixing the bees will do very well, as you will see from an article in another column. Buckwheat chaff is thought by some to be even better than oat chaff; but I am inclined to think the latter a little warmer and dryer.

I thought you would like to hear something about bees from a little boy eight years old. Pa gave me two stands of bees the first of August. I have fed them regularly, and have six frames of bees and honey. I have them in a chaff hive. I put them away the first of this month; packed them in chaff on each side, and on the frames, and banked the hive around half way up to the top outside with sawdust. I am going to school, and I read your A B C book at night. Pa takes four bee journals, and I read them.

I like to read about bee-keeping. I help my pa at queen-rearing, and finding them for him. The bees are going to starve where they have not been fed, and some are dead now. Pa has his all packed in chaff hives. He has 33 stands, all in good order for winter, but not as strong in bees as he would like to have them. I will let you know how I get along in the spring.

FREDDIE L. CRAYCRAFT.

Salem, Ind., Nov. 6, 1880.

Well done, Freddie! Your letter is tip-top; and, as you are the youngest bee-keeper that I ever had a letter from, I would like to engage you as a regular contributor. You know, we pay some of our oldest bee-writers for the time it takes them to tell us how they manage. Well, we will send you a 5-cent Sunday-school book for each letter as long as the above, if you will send us one every month. Tell us all about your pa's bees as well as your own; and be sure to tell us how many die in wintering. Tell your father he must look sharp, while "a chiel's amang ye takin' notes," in very truth.

BEES IN UTAH.

ALSO SOMETHING ABOUT THE COUNTRY.

I HAVE been thinking that I would say something to you about our beloved country and bees. I well remember, when I was a boy, I heard people talk of this country; but little did I think, at that time, that I ever should become a permanent citizen of that far-off country. But circumstances brought it about. I emigrated to this country in 1862; stopped a few years in Salt Lake, and am now living here in a little village called Washington. From the time I left my native State (Indiana) until I reached Salt Lake, the scenery was truly grand and romantic. I often thought, how strange, how great, is thy creation, O God!

Utah, as it is in a natural state, is every thing but inviting. You can travel for miles, and see nothing but a barren, sterile country; every thing that grows is of a desert nature, living without water. It really looks as though red ants and lizards were the chief inhabitants of this extensive Rocky-Mountain country, to say nothing of the honey-bee. But how changed the scene when irrigation is properly applied! It puts new life in the land; vegetation of all kinds springs up; every thing is gay and lovely. You, my friends, who live in rainy countries, have a drought for a few weeks; how do things look in that short time? Quite wilted. We have some rain here, say a good shower every year or two.

In the first settling of this country, bees were shipped from California; and it was for several years a great struggle for them to live. Many colonies died for the want of stores. Bee pasture was so deficient on account of the barrenness of the country, that it rendered it almost an impossibility to keep them alive through the winter; but very soon the water was taken from the mountain streams and spread over the land; farms were taken up; orchards were planted; large bodies of land taken up, and planted in vineyards. Water, in this case, has made the mare go; water has soaked the earth; and it has brought a variety of flowers, and so the busy bee is at home in Utah, even down to

the desert plants or shrubs. Some of them, in their season, are full of nectar; such as the shrubs called musquito and cactus plant, and a shrub called rabbit-bush. The latter is great for honey. It is now just beginning to show its golden blooms. I must say, that it is quite diverting to see a honey-bee in a cactus-bloom after pollen. If he is a black when he enters the bloom, in coming out he is an Italian (perfectly yellow all over.) There are many other flowers that grow on the desert, that I have not mentioned, from which bees get more or less honey.

Our climate here is quite mild and pleasant; bees are in full blast here the first of March, and from that time until the middle of November; there are not many days through the winter but you can see bees around the entrance, or flying; yet, through the summer we often have some unpleasant weather, it being so very warm. It is not uncommon for the heat to be up to 110 to 115° in the shade for many days together; but yet, as soon as the sun hides itself behind the western mountains, you can feel the cool, cheering, and bracing atmosphere, which makes every thing pleasant; and quite likely you will want a blanket over you before morning. As for this heat that I have been speaking of, I always considered it a little unnatural.

The lay of country (a basin-shaped tract—in fact, it is called the Great Basin of Utah), is surrounded by a heavy chain of mountains. The soil in this Great Basin don't amount to anything very great. If you look at the face of the country as you pass along, it shows that it has been literally burned up. There are two places in our settlement that show where the hot lava has been thrown from the earth, and has run for miles away. The face of the land has a very hard appearance, from the fact that it is mostly stone. Thousands of acres are paved with a sort of rotten stone—just right to conduct the heat in warm days. This being the case, the sun, pouring its brilliant rays upon those rocks that I have just mentioned, makes them very warm; yes, so warm that it is quite disagreeable to hold one in your hand. This being the case, day after day, every thing becomes very much heated. Now, in this excessive heat, if bees are not well shaded, they are very liable to melt down. Such is a very common occurrence; in this location, bees are very apt to build irregular combs without foundation, I think. Foundation, in this country, would work nicely. Last summer I had two melt down. I have had good luck this way. I have lost none at all. Don't understand me, that I have a great apiary. My apiary consists of five hives of blacks, and the one of Italians that I got of you. All are doing finely. I have taken 50 lbs. of honey from each black colony up to the first of August. They are still making stores (I use top hives). I many times think that, if you were here with your facilities, you would build up a place that would be greatly admired by all tidy and industrious people. Your climate is too cold; the warm season is too short. There are many things that we grow here that you can't grow in Ohio. Here we have cotton, almonds, pomegranates, all kinds of grapes, figs, and many other fruits that grow in warm climates.

I must say something to you in relation to our lovely climate. From October until the last of February, every thing is quite calm. Day after day you may look at the heavens, and not see a cloud, and scarcely feel enough wind to furl a pocket-handkerchief—the sun pouring forth its lovely rays week

after week, just right for a workingman to enjoy himself in getting a living in the way the Almighty has marked out; that is, by the sweat of the brow. In our little town there is, I think, about 225 or 230 stands of black bees, all in movable frames.

One man sent and got the A B C and GLEANINGS through my influence. I think there will be others who will follow suit; if they don't I shall always think they ought to. At present, they know how to kill bees at any rate.

W. LANCASTER.

Washington, Washington Co., Utah.

FROM AN A B C SCHOLAR.

THE PEET CAGE.

FRIEND ROOT:—I know you are an honest man. I have had enough dealings with you to prove this to me beyond a doubt; but my experience compels me to think that you are mistaken in regard to the Peet cage, which statement you will find to be true. If you will give it a fair trial. With it, the past season, I have introduced 16 queens without a single loss; and have also caged all of my queens with it in uniting bees, without losing a queen. Besides this, I saw several queens introduced with it in my brother's apiary without a loss. In the A B C, under the head of HYBRIDS, you say, "If you should desire to introduce a queen or queen-cell to these bees, they would be very likely to destroy all you could bring." I have introduced queens to several cross hybrids with the Peet cage without any trouble.

For introducing only, I make it about 1¾ in. long by 1 in. wide, without any bottom. An entrance is provided at the top for putting the queen into it, after it is fastened to the comb. All bee-keepers owe Mr. T. O. Peet a vote of thanks for giving his valuable invention free to the public. Now, friend Root, do give the cage a fair trial, and you will think as favorably of it as I do.

WINTERING TWO COLONIES IN ONE CHAFF HIVE.

I have five of your chaff hives, with two colonies in each. They are arranged as follows: a thin division-board made of comb-guides (an illustration of which W. B. Moore sent you), is placed in the center of the hive, which divides it into two equal apartments. Now, a ¾ in. piece, long enough to reach from the outer shell of the hive to the inner shell, is placed in the entrance against the end of the division-board. A ¾ in. board, 18 in. long by 12 in. wide, is now stood against the hive at the middle of the entrance, and securely fastened. My hives have slanting alighting-boards, and the board which divides the entrance is given the proper slant at the bottom, to make it rest on the alighting-board. I have had some hives arranged thus ever since the first of August, and not a queen has been lost yet. My alighting-boards are made of ¾ lumber, 20 in. long by 14 in. wide, and are prevented from warping by nailing a piece about 14x2x¾ across each end on the upper side. Blocks are nailed on the under side, at the edge that comes against the hive, to raise the board even with the entrance. Thus you see it slants to the ground, making them a nice "porch," at a cost of only about two cents. I have been using them ever since last spring, and have not had one to warp. By painting them, they could be made to look very beautiful.

J. P. MOORE.

Morgan Station, Pendleton Co., Ky., Oct. 30, 1880.

Ladies' Department.

HOW TO DESTROY ANTS.

WHEN you go to a hive, raise the cover, and find the quilt literally covered with those pesky little black ants, and about twenty eggs to every insect, carefully replace the cover without disturbing them. Then go to the house; borrow your wife's tea-kettle, well filled with boiling water. Now return to the hive; carefully remove the cover again; turn it bottomside up on the ground. Now pour a portion of the liquid all over the quilt, also some in the cover, and, my word for it, those ants and eggs that came in full contact with the medicine will never trouble you again. No patent. You can replace the wet quilt with a dry one, and lay the other on top of hive to dry.

Independence, Iowa.

JESSIE SHELDON.

WHEN TO MAKE A START, FALL OR SPRING.

I desire to raise only a few hives of Italian bees, which I presume will furnish enough to pay their cost. I am a widow, and have no one to attend to them but myself. I would rather pay higher for them, and avoid the stinging of the black bees. I am told by those who raise them, that I had better not begin until spring. If this is your belief, I will expect no answer. If you think I could keep out of doors this winter a colony successfully, with the attention of a novice, I will go on with it; otherwise I will wait until spring.

I have been studying your GLEANINGS and *Bees and Honey* for the past week. My head swims with the facts your books present, and I hope the A B C will throw more light upon my mind regarding frames, sections, foundations, nuclei, and the like. What a world of delight must have opened to you when first you commenced this study!

ELIZA C. RIVES.

Chatham, Pitts. Co., Va., Oct. 26, 1880.

It will be easier and safer to wait until spring, my friend; but the bees will probably cost you quite a little more than now. I hardly know you sufficiently from your letter, to be able to advise. Some of my friends, whom I can call to mind among your sex, I would advise to wait until spring before starting; there are others whom I would advise to get the bees now, and go to work. Any one who is really interested, and who would consider it a pleasure to study the matter up, and to do the work, I would advise to go on, even if they wished to purchase bees in mid-winter; but those who would be absorbed in other cares, so the bees might be forgotten or neglected, I would advise to wait until settled weather in the spring.—You are right, about the world of wonders that unfolded themselves to me in my experiments with that first bee-hive. From your concluding remarks, I am inclined to think, my friend, you are one of those who will succeed with bees; but I would warn you, that you may find the industry an outlay with no income, for some time to come.

Perhaps it might interest you or your readers to know how a lady near here succeeded in bee-keeping, and made money by it. In the spring of 1879, Mrs. A. M. Sanders, of this place, purchased two swarms

of Italians for \$7.00 each, and that season increased them to five; but, owing to a severe drought, which lasted nearly all summer, she did not have much surplus honey. The five were all wintered safely, and in the spring of 1880 she bought 19 swarms of blacks at \$7 each, running in debt for the whole amount. This year she has sold honey to the amount of \$300, and to-day has 46 swarms in good condition to winter, thus paying for her bees and having a nice surplus left, besides nearly twice as many bees as in the start. If any one can show a better account than this, I should like to see it.

We have one draw-back to bee-keeping here: We are situated just on the edge of one of the great lumbering districts of this State, and the swarms of hands employed in the woods seem to think that melons, honey, and fruit are perfectly legitimate objects of plunder; and if you ever had your best swarm of bees ruined by thieves, when you had but a very few, and felt too poor to buy more, then you know just how I felt one Sunday morning a year ago. If you or any of your contributors can suggest an effectual remedy for this nuisance, I for one will be profoundly grateful.

E. HUNT.

Sheridan, Mich., Nov. 1, 1880.

Well done for the ladies, friend H.! and many thanks to you for giving us this excellent report. Will not the fence of barbed wire about your bees and crops, mentioned recently, keep away marauders? Would it not be well to start Sunday-schools too, around at the schoolhouses, and raise up and civilize these foolish brothers whom God has perhaps providentially thrown in your way, while you at the same time save your honey? I am not sure but that the latter plan will be quicker and more effective than the barbed wire fences. "He who converteth a sinner from the error of his way, shall save a soul from death, and shall hide a multitude of sins."

A SUGGESTED IMPROVEMENT OVER FRIEND HASTY'S SCALE.

A SCALE FOR REGISTERING THE DAILY LOSS OR GAIN OF A BEE-HIVE.

FRRIEND NOVICE:—GLEANINGS for September has just been received; and, on looking over the pictures, the diagrams of friend Hasty's hive-scale immediately struck my eye, and I hastened to read the description. Well, the apparatus is ingenious, but, as you say, not convenient. Now, I have an idea in my head, which has been brewing there for some time; and, as you call for improvements, I will give it to you to work out and improve upon if practicable; and if you can make any thing out of it peculiarly, I shall only be too glad to have benefited you as well as the bee-keeping fraternity.

My ideal hive-scale is a combination of Fairbanks' platform scales and Chatillon's "Family" scale. It should have a platform, *a la* Fairbanks, large enough to set a hive on. This platform should rest on the same oscillating apparatus as in Fairbanks' scales, so that the hive may always stand firm and level, and have very little vertical motion. The graduated arm, carrying the weights, should be substituted by a smooth one carrying a sliding weight with a set-screw. At the short end of the arm, or on the upright part of the platform scale, should be arranged a dial, *a la* Chatillon. I am not acquainted

with the inside arrangement of the "Family scale," but suppose that it might be arranged so as to be connected or disconnected with the platform scale by the simple turn of a button or the like.

Now, in regard to the weights, taking my own hive as a standard. I use a two-story hive with frames, which will take 6 one-pound sections instead of 8, as I regard the regular Langstroth frame as too large and inconvenient to use in the extractor, where I want the frames to hang just as in the hive, and not stand on end. Each story contains about 2000 cubic inches. The frames are $9\frac{1}{4} \times 13\frac{1}{2}$, outside measure, made of $\frac{3}{8}$ stuff. Lower story takes 10 frames. In upper story I use only 9. Empty two-story hive weighs about 24 lbs. An extracted comb, just weighed, weighs 2 lbs., which makes 18 lbs. for nine. I have often extracted 50 lbs. of clear honey from a set of frames in a hive which I formerly used, of a different shape, but same capacity. Allowing 53 lbs. for contents of lower story, which, of course, in most cases is too high (although I have had one case of Italians which were completely "honey bound"), I will sum up as follows:—

Honey in upper story - - - - -	50 lbs.
9 combs " " " " " " " " " " " "	18 "
Contents of lower story, including swarm	54 "
Weight of empty hive - - - - -	24 "

The hive-scale should therefore be capable of carrying a weight of 150 lbs. The sliding weight on the arm weighs the tare; that is, the whole hive without the surplus honey, and should be capable of being slid back till it indicates no weight at all. The dial-hand, which indicates the actual increase or decrease of weight of hive, should indicate as high as 50 lbs., and the dial may be graduated as fine as you please. In order to be complete, the dial-hand ought to be able to move some distance from 0 to the left, so as to indicate loss as well as gain. Now, when you make any change in the weight of the hive, as in putting on or taking off upper story, extracting, and so on, move the sliding weight back or forth until it balances the hive. Fasten it there with the set-screw. Then connect the Chatillon with the Fairbanks, and any subsequent increase or decrease will be indicated by the dial-hand. As 50 lbs. can be weighed by the dial, when the sliding weight is pushed back to just keep balance with the empty platform, the arm which carries the sliding weight ought to have a 50 lb. mark or notch, and a 100 lb. mark or stop (at the further end) for convenience in weighing any thing heavier than 50 lbs.

The dial should be right in front of the hive, so that the bee-keeper, standing behind the hive, can read it at a glance. The bees will have to fly out and in on both sides of the upright part of the scale, which will not be much in their way. Nothing of the apparatus should be at the side or back of the hive, to interfere with the operations of the bee-keeper. Under the dial, or on the back of the hive, I would hang a slate, with pencil attached, to mark down the changes from day to day. I would set the scales on a platform, like the bottom-board of a hive, with cleats of 2x3 scantling. To the front of this platform I would nail two uprights with a crosspiece on top, or the uprights may be driven into the ground like your grapevine trellises, and to this crosspiece I would hinge a light cover to protect the apparatus from the weather, and at the same time shade the hive. This cover should slant to the front, so that I can read the dial without stooping or rais-

ing the cover; and when I want to work with the hive I throw the cover back on its hinges, out of my way. It may be held in this position by a button, hook, catch, or the like.

This last arrangement would, of course, be home-made. The scales themselves should be as plain and light as possible, on account of cost and freight; but should have a substantial coat of paint, so that they may be left on the stand all the year round if desired, as they would be in this and the Southern States. They ought not to cost over \$10.00 to come within the reach of bee-keepers of modest means, but of sufficient intelligence and enterprise to like to know the exact state of the honey-flow.

Now, if you or anybody else can simplify or improve on this, do so; and I hope, that by next spring you may be able to put on the market a hive-scale which will weigh a full two-story hive, for which the 60 lb. spring scale, aside from the swinging of the hive and other inconveniences, is of no account whatever.

WM. MUTH-RASMUSSEN.

Independence, Cal., Sept. 11, 1880.

Many thanks, friend M., for your suggestions. Your improvement, or, at least, its principal feature, would be to have a dial-scale, of a capacity not exceeding 50 lbs., so arranged that it would register the ups and downs of an article weighing 150 lbs.; that is, instead of going from 0 up to 150 lbs. in oz., which would be a very expensive apparatus indeed, we simply have a machine that will register from 100 lbs. up to 150 lbs.—the dial having to sweep only 50 lbs. No doubt this can be done; and if the demand were sufficient, I think it might be made very cheaply. I have already ordered a scale that I think may be made to do it.

A NEW IDEA IN WINTERING.

WARMTH AND DRYNESS SECURED BY CHEMICAL MEANS.

THIS will be a hard winter on bees in most parts of the country, on account of lack of good stores, and mostly old bees,—a poor prospect certainly. We must help the little fellows, or make up our minds to lose them. Last winter I kept 10 stocks warm, dry, and in good health, by chemical means; *i. e.*, by a generous use of quicklime. My other stocks had the dysentery, and every one of the chaff hives was mildewed and wet, in spite of three dryings during the winter; while the 10 cushions used on the hives with lime, were as dry and clean as when first made. No one will believe the amount of water quicklime takes up by chemical affinity, unless they try the experiment for themselves; therefore, take about 1 quart of it in a basin, and $\frac{1}{2}$ pint of water, which pour slowly on the lime, stirring well all the time during the slaking, and if the lime was properly made you will have a perfectly dry powder, still capable of absorbing more water before becoming damp. The action of the lime is threefold:—

1. It absorbs moisture;
2. It absorbs carbon dioxide (carbonic acid);
3. It gives out a large amount of heat.

This it does slowly, and in exact proportion as it absorbs the breath of the bees; *i. e.*, much moisture, rapid chemical action, much heat. What is still more strange, this is dry heat, not moist.

This absorbing action is so slow, and the amount of heat so small, that nothing but scientific instruments,

hygrometer and thermometer, and the bees can appreciate the meaning of a *constant, mild, dry, pure atmosphere*. What is the use in making the bees use up their honey, worth 15c per lb., to develop the requisite heat to keep them alive, when it can be done with lime, worth less than one cent per lb., and which is almost as valuable *after* this slaking as before? Don't believe me when I say, not one of the ten hives above mentioned used over 15 lbs. of honey (all they had) in wintering out of doors, even if it was a mild winter, for I can hardly realize it myself, even when I see the figures in my yard-book now before me.

When you try the experiment of slaking the lime, notice the heat developed, but not with your finger (unless for a cartoon). I used the lime in a feeder *à la* Van Deusen, made flat and laid broadside next the bees under cushion; this was troublesome, requiring frequent refilling. I will use, this winter, on my weak stocks, a box made like your chaff-cushion division-board, and to hold about half a peck of lime.

Chloride of calcium (calcined) will absorb much more water than lime, and I expect much from it for these same purposes; and it will have to be contained in a water-proof vessel, as it is one of the most deliquescent substances I know of. Absence of actual experiment is the only reason that prevents me from recommending this substance to the careful bee-keeper, although I am certain it would be a success.

C. LOVER.

Reisterstown, Balto. Co., Md., Oct. 18, 1880.

SOME MORE NEW BEES.

CHINESE BEES, OR BEES FROM THE VICINITY OF CHINA.

A FRIEND in a neighboring town furnishes us the following very valuable letter. We first give his own letter as a sort of introduction:—

I inclose a letter which I have just received from my brother, C. D. King, who is a missionary. He wrote me some time ago about the natives bringing in honey, and I asked him to hunt up some bees and see if they were like our bees here. You will see by his letter that they are not like ours. Now, there is a probability that he will be called back to America to stay a year, and I very much want some of those bees. Do you think it possible for him to bring them so far, and keep them in confinement so long without their dying off on the way? It takes six weeks or two months to make the trip. You have had some experience in shipping bees long distances. Please write out and send me just such instructions as you would give if you were having them brought for yourself. It may be possible that he will have an opportunity to stop once or twice on the way; and if so, would it not be best to let the bees have a fly? If he succeeds in getting them, I will keep you posted as to their welfare, honey-gathering qualities, habits, etc.

C. T. KING.

New London, O., Nov 2, 1880.

Here is the letter from the missionary:—

I am ready to tell you about the swarm of bees that I have been observing and playing with for nearly half an hour. Some of them are still flying about in a disconsolate, disorganized state, lighting here and there on the prostrate fig-tree on which they clustered this morning, or on the branch of a lime-tree, which lies entangled with the branches of the fig-tree. Others of the colony are imprisoned in

a large glass bottle, or jar, which stands before me, on the table. This is the first opportunity I have had for telling you anything about Assam bees, and, as you perceive, I am inclined to make the most of it.

I am more and more convinced that the theory which I caught at months ago is, in a far greater measure than I then supposed, the true explanation of the almost utter absence of bees about our houses and grounds. The ants have the monopoly in the business of gathering sweets. They, instead of bees, are found swarming about every shrub and every blossom that has anything sweet about it. They industriously pick up every grain of sugar that falls from the hands of careless servants. They lick up every drop of syrup that is left on the table or floor or dish, and if perchance one gets a drop on his clothes the ants take that also, and he finds a hole in the cloth, to tell the story afterward. The bees have but very little chance. But the natives protest that there are plenty of them in the jungle. My own conviction is, that there are many more bees in the hills than on the plain. The Nagas at one time carried on quite a pretty extensive trade in beeswax, and they used often to bring in honey when I was at Samaguting.

This swarm that I found settled before my very door this morning as I came out after a ten-o'clock breakfast, was a very small swarm of very small bees. I should hardly have recognized them as honey-bees at all if they had not been clustered after the manner of bees. I first scraped off a part of the cluster into my bottle to examine them. Hunai admitted that they were *horu* (small), and when asked if there are larger ones, "*Dongor rokam asene?*" he replied, "*D-ngor asse*" (large ones there are.) And others of the natives say the same thing. There are two kinds of bees in Assam,—a large kind and a small kind, with habits alike, so far as these people can tell. I have not time to tell you their story of how the creatures are born. But they, or at least some of them, think that some other insect places the little worm (larva) in the cell prepared by the bees.

These bees in the bottle before me are more slender and but little longer than the common house-fly which is so plentiful with you. This latter pest is as scarce here as are the bees themselves, if not more so. The head and thorax of these bees before me are black. Their waists are a reddish yellow, but the abdominal portion for more than half its length is black, marked with three white stripes across the back, with a slight pencil-mark, apparently meant for another stripe, near the extremity. On the under side, the yellow predominates, and takes the place of the white, so that they seem to have black stripes across the yellow. Their wings are white and transparent, with a very delicate brown stripe along the outer edges. By looking closely, one can also see a brown network traversing the delicate white wing. On the underside, their black heads and thoraxes seem to be covered with a white down or fuzz.

What more do you wish to know about them? I have not told you, though, that I made a sort of an attempt to hive the swarm. I made a very small hive out of a small Assam tea-chest, and shook my bees into it; but they were all in the air again in less than ten seconds. They were easily disturbed and driven from their chosen place of rest; but would soon settle again somewhere on the same

small tree-top. I finally captured the queen; and she is with a few of her colony in this bottle. She has but very little black on her body, and is not so pretty as her little attendants. C. D. KING.

Sibsagar, Assam (East India), Sept. 21, 1880.

Many thanks, friend K. I read the letter all through in almost breathless anxiety to have your brother tell us something about the honey the bees gathered. Of course, they produce honey, or honey would not have been offered for sale as he mentions. I fairly ached to tell him to take his queen and bees out of the bottle, and get her to stay in the hive some way. Tell him if he starts to bring you some bees, to fix some stout little boxes, about six inches square. Put at least 1 lb. of candy for every oz. of bees on one side of this box. Have it melted and poured in, so that it can by no means break loose. Some cross-sticks would be safer. On the other side have a bottle of water, fixed with a slot in the cork, and have it so it can be taken out to replenish, and so it can be done, too, without endangering the queen. Now, right between the water and candy, fix firmly a comb of their own, filled with honey. This honey will keep them until they have learned surely how to use the sugar and water; but the sugar and water will be much healthier for them in their long confinement. I would, if possible, let them fly every week or 10 days. I presume it will not be practicable to fly them on the vessel. Has friend Jones ever tried this? When you let them fly, watch the entrance carefully; and if the queen comes out, she must be caught and put back. If she is kept in the hive, there will be no danger of the bees decamping. Perhaps a wire-cloth tube might be fixed to let them pass out of, so that the queen could be seen before she got quite out, and the entrance then stopped until she turned back. We should be very glad to have this whole matter submitted to friend Jones for hints and suggestions. We want to see these little friends of ours tried in our climate, even if they are small. The description would almost lead one to think them the same, or nearly so, as the Egyptian bees. The large varieties, we should be still more glad to see, of course. We will send your brother the GLEANINGS, friend K. It already goes to a great many missionaries, and if any of our friends have missionaries of their acquaintance, in any part of the world, we will send it to them free of charge, as long as God gives us the means, and we will feel it a privilege to do so, besides.

BLACK BEES IN ITALY.

SEVERAL times I have vouched that there are no black bees in Italy. During my visit, lasting five full weeks passed there, I was unable to find a stock of hybrids, although I visited scores of apiaries in Italian Switzerland and Piedmont. Of course, even in the same apiary I saw some bees darker than others; the queen sometimes being dark, and the bees bright yellow; sometimes it was the reverse, but the same differences can be noticed, more or less, in every race of bees,—in Cyprus as well as in Italian.

While I was there I made inquiries about the purity of bees in the entire peninsula. Some inter-

ested bee-keepers told me that the bees in the north are not as bright as those of Lombardy, while others, disinterested in the question, told me that they are all the same throughout the whole extent of Italy. I know that black bees were found at Nice, but, by looking at the map, you will see that Nice, now a French city, is outside of Alps—mountains that the yellow bee must cross to mix with black bees. Mr. Mona, a well-known bee-keeper of Italian Switzerland, has written and has narrated to me that, to ascertain if the yellow bee was entitled to the name of "Ligurian" bee, or of "bee of the Alps," as she was named at first, he had undertaken a journey around the whole Italian peninsula, and that, from Piedmont to Calabria, and from Calabria to Venice, along the Adriatic Sea, he had everywhere found the pure Italian bees.

Let us remark, that Mr. Mona is a breeder of queens, and that such assertion was in discord with his own interests. Mr. Jones, when he says that there are black bees around Rome, is altogether in discordance with a well-known Italian bee-keeper, Dr. Angelo Dubini, Treasurer of the Italian Bee-Keepers' Society. For several years Dr. Dubini has been accustomed to leave his patients, for a few weeks in summer, during which vacation he makes extensive trips in the different parts of Italy, visiting apiaries. On his return home he relates, in the journal of the society, the incidents of his voyages. Although he has thus explored every part of Italy, he never found any black bees in the numerous apiaries that he has thus visited.

Now, the assertion of our friend Jones, and of some other bee-keepers, that there are black bees in Italy, can not be explained but in this way: The Italian bees differ in color from the black bees, only by the transparency of the first rings of their abdomen. You can see this transparency when a bee flies against the glass of a window. Of course, the thinner the shell the lighter the color. In an old worker, the wing sometimes seems to be thickened, for the transparency has decreased. In the fall, when the bees eat dark honey, the wings have a dark color, on account of the dark contents of the crop; and in spring the same bees seem splendid in color; the honey in their stomach being lighter in color.

Some honey in Italy is very dark; such is the heath honey; some pollen there is quite black; such as the pollen of the poppy. Of course, a bee filled with such dark food will look as black as a common bee. If anybody doubts the fact, let him feed a few bright Italian bees with honey mixed with a little lampblack. So, to my mind, our friends who saw black bees in Italy did not look closely enough before pronouncing their judgment.

Another accusation that I see in the report of the convention held at Cincinnati, is, that the dark Italian, or leather-colored Italian bees, are full of vindictiveness, and ready for fight. We have introduced in our apiaries at least one thousand imported queens, during about 14 years in the importing business; and yet we have, without a single exception, always found the imported bees, even the darkest, very gentle to handle; and we are sure of being indorsed in this assertion, by the hundreds of bee-keepers to whom we have sold imported queens.

We can also vouch, that a great many of our customers have found the leather-colored bee better than the light yellow; probably on account of the greater thickness of the shells of their wings—thickness which gives to the bees a greater endurance.

Hamilton, Ill., Nov. 9, 1880.

CHAS. DADANT.

FRIEND FARIS AND HIS INVENTION.

WILL you please give me a little space in GLEANINGS to reply to Mr. Chas. S. Larkin? In the first place, I deny copying any part of Oliver Foster's plates. Now for the proof.

This is to certify, that I bought of John Faris a one-story Simplicity bee-hive, with ten frames, with foundation in same, in June, 1879.

JOHN W. HENINGER.

Town-House, Smyth Co., Va.

This is to certify, that Mr. John Faris exhibited to me at different times in the year 1879, a comb foundation with pretty fair impressions. I used some of it in the Langstroth frames, full length, which caused the bees to build straight comb.

H. G. HENINGER.

Town-House, Smyth Co., Va.

Now, this proves, beyond a doubt, that I *did* make fdn. in 1879.

In June, 1879, I made a pair of plates, L. size; made some fdn., but it was a little rough, on account of little wind or bubble holes in the plates; but I remedied that by making the comb perfectly wet, and the plaster very thin. I wrote to Mr. Root concerning my plates and experiments, but it never appeared in GLEANINGS. That was about June or July, 1879. I wrote to Mr. Root about the first of this month, if he will be pleased to hunt up that letter. He replies, that he can not find any such correspondence. I suppose that he has got it mislaid; but be that as it may, I experimented and gleaned on. Right here I want to say, I got a good idea from Dr. Harrison, or rather from a description of his machine, by Mr. Root, on page 239, June No., 1879. Mr. Root describes it as being like a book; then, you know, I made a pair of frames, and just hinged them together like a book-back; then all I had to do was to get two plates that would fit perfectly together. That cost me a good deal of time and money to bring it to perfection. I would knock out and refit, until I had the yard pretty white with fragments. I get my plaster from the bank raw, so I had to burn and prepare it for use before I could use it. Well, the next thing was something to dip my plates in; and so I went to work on a box. I brought that to perfection, as I thought; then I prepared some wax, dipped my plates in the wax, cooled them, and pulled them open. About one-half of the sheet was on one plate, and the other half on the other plate. None came off. Then I remembered some bee-keeper said, pour hot water on the plates. Well, that was all right. Then I got a little starch, and it peeled. So, you see I had about completed my plates before Mr. Foster's article appeared in the March No., 1880. I did try one of Mr. Foster's ideas, and that was slapping the plates together hard. That spoils the impressions of the fdn., and so I dropped that.

I think Mr. Larkin has been very unkind in accusing me of copying Mr. Foster's machine. Not knowing the facts, I hope he will make some apology for so doing. I attribute my idea of dipping to my success, which I believe nobody claims. If you will look on page 109, March No., you will see that Mr. F. dipped his plates several times before closing them. He dips his plates straight down; I dip level. I never tried his plan of dipping. Mr. Root says, in his answer to Mr. F.'s letter, he has tried his plan, and was glad to go back to the rolls again.

Oh! by the way, when I spoke of Dr. Harrison's machine, I meant the editor of the *American Bee-keeper*, of Lebanon, Mo.

JOHN FARIS.

Chilhowie, Smyth Co., Va., Oct. 20, 1880.

If, as you stand before God and your fellow-men, friend F., you feel that you have done right by our silent friend, Oliver Foster, I presume it will be best that we all let it drop. The credit of the book idea does, I believe, belong to friend Harrison, for I never heard of it until he advanced it, although it seems he never succeeded in making full-sized sheets with a good cell-wall on each side. Shall we not cultivate a spirit of striving to give others the credit due them, while we pleasantly let it drop, even if they should forget to remember us in the same way? "He that loseth his life for my sake, shall find it."

IMPORTANCE OF PREPARING BEES FOR WINTER EARLY.

DAMAGE OFTEN DONE BY EARLY FROSTS.

FRIEND ROOT:—I believe I will give you a little of the experience we have had through here with the cold winds this fall. Two weeks ago to-day it blew the hardest I have ever known for a steady gale. It blew a great many wind-wheels to pieces, now and then a chimney off, stacks, etc.; also a bee-hive cover now and then. Then it was pretty cold for three or four days. Well, the consequence was, that the bees were caught in small clusters all over the hives on the outside combs, and chilled. It seems as if there was a good double-handful brought out, and I don't suppose they are all cleaned out yet. Many of them that were brought out did not seem to be dead; but I suppose the sun shining on them revived them; but they were too nearly starved and weak to get back into the hive again.

I was at friend Oatman's last Saturday for two or three hours. They were packing their bees in chaff boxes, and will pack the most of them. Some of them they will put four in a place, back to back; will put some shallow frames in the cellar. I think he said that he never saw so many bees killed off in this way before. His hives looked just about like mine—dead bees piled out in front. They have no surplus honey this season. They have about 300 colonies.

Yesterday I was at friend C. H. Storck's, northwest from here about fifteen miles. He also thinks his bees are weakened a great deal from the chilling wind, and he said they would have to go into winter quarters soon if it became cold. He thinks another fall he will try to have all his bees contracted on five or six combs, about the last of September. That is just about my idea of it. I think if our bees had been crowded on just what comb they would cover, there would not have been so great a loss as there has been. I don't suppose your chaff hives have such a report as this to give, have they? Friend Storck got a good crop of basswood honey this year. His bees got in about 12 days' work—about the best he ever had.

Friend Hodgkins, of Shirland, has had a cider-mill about 25 rods from his bees, and when they had a chance they patronized it freely. He kept them shut in part of the time, but he says it killed off a great many of them. He would find lots of them lying outside, looking just as if they were ready to burst open. I was at the mill one day, and the pomace was covered thick, and they would shovel bees and all into the cheese. It must be bee-juice and cider together.

V. W. KEENEY.

Shirland, Ill., Oct. 30, 1880.

FEEDING BEES.

WHAT, says the beginner, have I got to feed the bees? Why, I thought they fed themselves, and would make honey to feed the bee-keeper too. All right; so they will, if we manage them rightly. But there are times when it pays to feed them. If we have some late swarms, and we wish to winter them, the probability is that they will have to be fed. If we take too much honey from the bees during the honey harvest, they may be short, and want feeding to get them through the winter. Again, the season may be so poor for honey that the bees won't get enough to keep them through the winter, without feeding; but, fortunately, those very poor seasons don't occur very often; but when it *does* happen, be sure to feed the bees, and keep them through the winter if possible. Remember, that almost all who keep bees will let them starve these poor seasons. It is not very likely that two very poor seasons will come together; but if that should happen, stick, stick to the bees. It will be all the better if you come out right and save the bees.

But what shall we feed? Feed honey if you have it; if not, feed sugar made into syrup. During the months of June and July is a good time to save combs of honey to feed. If one has a good place to keep them, combs of honey in the frame is the very best and handiest way to feed. We can then just exchange the empty combs for those filled with honey enough to do the bees, and the job is done. But, unhappily for bee-keepers generally, myself with the rest, we don't have a proper place to keep these combs of honey safely from the worms. We need a room where we can smoke them with sulphur, to keep the worms from destroying them. The next best thing to feed is extracted honey.

WHEN TO FEED.

As soon as frost kills the blossoms in the fall, look over all the bees, and unite the weak ones. All others that have not enough stores to last until the first of April must be fed until they have enough to carry them through until that time.

How much do they want? That depends upon the size of the colony. I never weigh; I always guess at the amount by the looks. Be sure to give them enough. I find it don't take any more honey to last from the first of October to the first of March than it does to last from March 1st to fruit-blossoms. After that time the bees, as a rule, will take care of themselves, as far as feed is concerned.

I think if an average colony of bees has 15 lbs. of honey October first, it will last them till the first of March—perhaps longer; but it is better to look them over as soon as the first of March, and feed all that are getting short of honey; and keep feeding enough to keep them until the fruit-blossoms appear. In 1879 I fed 500 lbs. of honey in the fall, and then fed, in the spring of 1880, 1500 lbs. more. Of course, it was some work to extract that amount of honey, and then feed it back again; but we can not always tell just how much to take away, for the reason we don't know how much they will gather after we quit extracting. It depends on the season. This season we had a very short time to extract honey. There was no white clover. We got 6000 lbs. within two weeks. Just as the basswood commenced to blossom, we extracted all the honey we could get; then we extracted all twice more—the last time, just at the close of the basswood season. The last time we extracted, we knew the probability was that we would have to

feed back perhaps as much as we were then taking away. Then, why did we take it away? We had two very good reasons for doing it. First, there had been a great deal of wet weather, and the prospect was good for late honey, and we concluded to take the chances. If there should be enough honey gathered after this to winter, all right; if not, we could feed. Our second reason for extracting the last time, was this: Our first honey was very dark and unsalable, while the third extracted was very nice and white; so, if we should have to feed back, we could feed the dark honey and keep the white. The difference in the quality would pay all the trouble; and, I am happy to say, the result has proved to be in our favor, as the bees have gathered very nearly or quite enough to winter from late flowers.

HOW TO FEED.

Right here is a point where we must be very careful, and not get the bees to robbing. When the bees are gathering honey fast, there is no danger. We can have honey about in almost any form outdoors, and the bees will not touch it; but at a time when it is necessary to feed, it is an entirely different thing. Let the bees now but get a taste of honey outside, and it will make them nearly crazy to get more, and they will crowd in everywhere they can to get honey. For this reason, we must feed in some way so that other bees can not get at the honey. In the spring of 1879 I found that I had to feed about sixty colonies of bees. I had a few Harrison feeders, but not nearly enough, and what I had were too small to suit me; besides, I did not like them. The honey was fed through a cloth, and I found it was a nice job to get the feed just right, so it would not drip too fast, and still be thin enough to enable the bees to get it. I accordingly set my wits to work to see if I could not do better. I got out my *A. B. Journal* and my *GLEANINGS* (I take both papers), and they often help me out of trouble. I hunted in them for every kind of bee-feeder I could find. I wanted something that would not be in the way of the bees, or interfere with their work after they had emptied the feeders. I examined Prof. Cook's feeder—a sack of cloth hung between the frames, filled with honey. That wouldn't do for me. The feeder would be in the way after the feeding was done, unless I should be on hand to take it out; and for me, with three yards of bees, away from home, I would be very sure to leave them in too long. Besides, it was a cloth feeder, and was liable to the same objections that the Harrison is. Then, there was Mrs. Dunham's feeder, on the pepper-box plan—a tin box or flat can, with holes in the bottom. This was to be hung in the hive between the combs. It had one of the objections of Prof. Cook's. It occupied the place of a comb and would be in the way; and should it be left in, the bees would soon want it out, so they could put a comb in its place. Besides, I don't like the idea of dividing the brood-combs in early spring, and putting a cold tin can between the combs. I want to feed over the bees, on top of the frames or honey-board. I use a honey-board, and put my feeder over a hole in the board, right over the bees. The bees will then come up under the feeder, and get the honey. The heat of the bees below helps very much to keep the honey warm, and they can get it at any time, and it would not be in the way at any time after the feeder was empty. I finally decided upon what I thought would fill the bill, and got up my pepper-box feeder, as I use it now. I don't

claim this as altogether my own invention. The pepper-box cover, or bottom, together with the atmospheric pressure to keep the honey in place, is old; but there are some things about it that are new—or, at least, I have not seen them before. However, as far as I am concerned, there is no patent on it, and I hope there never will be. For that reason I sent one of them to the editor of GLEANINGS some three months ago. He wrote me that he liked it, and said he would illustrate it in his paper; but so far he has not done it. I desire anybody to make or use them who wish to. Our tinner here make them to hold $3\frac{1}{2}$ lbs.; single, for 15c each, or \$1.25 to \$1.50 per dozen. I have fed over \$3000 lbs. of honey with them; have over 100 of them, and, for my use, it is the best feeder that I have ever seen. I have had them in use when the weather was freezing cold—in fact, by spells down to zero, and the bees would empty them if the honey did not get candied.

To use this feeder, fill it; put on the cover, turn it upside-down; put it over a hole in the honey-board, or, with a two-story hive without honey-board, put it on the frames, with an opportunity for the bees to come up between the frames under the feeder; tuck the quilts around the feeder; put on the top cover of the hive, and let the bees work at it. A good strong colony will usually empty a feeder in two days, if the weather is mild. Some colonies that I was feeding last fall had the feeders filled up in November and left on all winter. When I looked them over in March, almost all the feeders were empty. A few had a little candied honey in them. Now, I think I have done with this subject for the present. If any one wants any further explanation, just say so. Ask any question you please, and I will try to answer it.

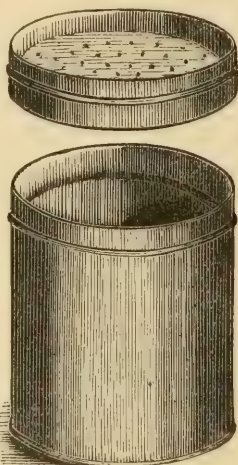
EDWIN FRANCE.

Platteville, Grant Co., Wis.

The feeder was laid aside without illustrating, friend F., because it is virtually our regular pepper-box feeder, that we have advertised and sold for years past at 10c each, or \$1.00 per dozen. Your improvement consists in so making it, that it has a rim to keep it up from the honey-board, and so that, if the honey-board has but one hole uncovered, no bees can get around the outside. It is also, perhaps, a trifle handier for the bees, when set over the frames. From the illustration given above, I presume our friends will have no trouble in making their own, with the aid of our \$1.00 soldering outfit. The tin hoop, that just slides over the top of the quart can, has a "bead" run round it, about midway from either side, and in this a circle of tin is snapped. After being securely soldered, it is pricked full of holes, and this cover is then slipped on the can, so the rough part of the holes is downward.

HOW TO MAKE BEE-FEEDERS, ETC.

Cut a 14x20 sheet of tin in four equal pieces, so that each piece will be 5x14. Roll it up so as to lock the joint and make a cup 5 in. high. Two more sheets of tin will make just 8 tops and bottoms for our 4 feeders. At 7c per sheet, you will have 19c for doing the work on the 4 feeders, if you sell them at 10c each. You will need a tinner's machine for turning up the bottoms, and for running a bead where the perforated cover is slipped in; but you can make a very fair feeder without any other tools than a pair



FRANCE'S PEPPER-BOX FEEDER.

of snips and a set of soldering implements if you are very anxious to do the work all yourself. This feeder will hold a little over a quart, but we call them quart feeders. When you make tinware, always give your customers full measure. By making the feeders half as high, you will have a 5c feeder; but as you have got to have just as many covers, it is pretty close work to make the latter and make a profit. The strips that go round the cover can be saved from the sheets that cut the round pieces. By leaving out the holes, and making the band to the cover half as wide, you will have a quart pail. If you have not tools to lock the joint, you can roll it round a cylinder of wood, lap the edges, and solder. Slip out the wood, and take another. We make all of our honey-pails thus, for the covers fit nicer. How many of my boys will start a tin-shop this winter? Keep it neat and nice, and you will enjoy it and make money too.

A SUBSTITUTE FOR CHAFF HIVES FOR WINTERING.

WE (that is, my son William and myself) commenced one year ago last spring with three colonies of bees, and with a little care and managing we have now to go into winter-quarters with 22. Just about a year ago we traded with one of our neighbors for 6 swarms about the time we put them away for winter. And I want to tell you how we did it, for the benefit of others who are asking how they can winter their bees successfully, surely and cheaply. I am not going to say this is the best way, by any means; but I think it is a better way than putting them in a damp cellar, or any cellar, and, perhaps, next best thing to a chaff hive, and, in a very cold latitude, a little better. I went to the dry-goods stores and bought a lot of dry-goods boxes—one for each hive, large enough to hold a hive, with a space all around of about 4 or 5 inches. I filled in the bottom with 3 or 4 inches of chaff; then I took a hive, stopped the entrance at the bottom, and bored a hole with a center-bit about 2 inches from the bottom-board, in center of front of hive $1\frac{1}{2}$ inches, and inserted a pine tube, made by boring a $\frac{3}{4}$ in. hole through a piece of pine plank about six inches long, and also boring a hole to correspond, in the box, and setting the hive in the box with the tube, passing out through the hole in the box to give the bees a free passage out and in at will, except, perhaps, during a very warm time in winter at mid-day, while there might be much snow on the ground, and danger of snow-blindness, and bees alighting on snow and becoming chilled. With that exception, I would leave the tube open after filling the rest of

the box with chaff snugly packed around and above the hives, with a good cover to exclude storms, and with sufficient supply of honey, and leave them just where they have been during the summer. All came out in splendid trim in spring. They need not be taken out until they need more room in the passage at working time; in this latitude, say about the middle or last of May. Care should be taken not to take the box from them too soon; but if they show signs of being too warm in the spring from lack of ventilation, they will hang out on the outside of the box; and then I would remove the chaff from over them, as there will be plenty of young bees at that time, and they need a warm nursery during the cool nights in the fore part of May. We fill the upper story, or top of hive, above the cloth with chaff; also in place of mat to hold the animal heat of the bees, and also to absorb all moisture that may arise from them.

Below I give you a diagram of box, with tube inserted. The box should be raised a little at the back side to carry off water, if supplied with a board roof or cover. D.

Independence, Iowa, Sept. 16, 1880.

Very good, friend D. Your plan is not exactly new, but it may be new to our younger readers. Your manner of fixing the entrance is good, and may be easier than bridging over the usual entrance. My experience has been, that we had better leave the chaff packing around them the year round; and on this account, the chaff hive would be least trouble, in the end. Your dry-goods-box plan will answer excellently, for it has been very extensively used for several seasons past. Be sure that it is done right, and that the bees have a clear passage-way out and in.

WHEN THE HONEY-BEE FIRST CAME TO AMERICA.

MR. ROOT:—Inclosed I send you evidence that I think must remove all doubts as to whether the honey-bee of this part of the country is of a ferous, or native, race. I should have sent this statement before, but it was not convenient to obtain Mr. Murphy's statement in confirmation of it, and I did not want it to rest on my statement alone.

Before the waters of this section of country found an outlet, the highest bluffs must have been submerged. As it subsided, a layer of rock formed on the tops of some of the bluffs that now border the bottom lands of the Missouri and Nemaha Rivers, composed principally of the shells of fresh-water insects. Suddenly sinking to lower levels, the waves, beating against the sides of the bluffs, formed one shelf after another, so well defined that they can be traced by the eye from bluff to bluff, half a mile or more away. Three layers of rock were formed, with intervening layers of earth 25 or 30 feet thick. The lower one is but a few feet above the surface of the bottom land, or flats of the rivers; the second, some 30 feet higher. On the up-stream side of a bluff, that formerly sloped gradually down to the waters of the Missouri, a horizontal layer of rock of the middle course, 11 or 12 inches thick, formed,—composed, to a great extent, of fresh-water shells; on the upper surface of the rock were several inches of shale, and above this, two or more feet of earth. The for-

mation of the bluff was such that the water striking against it would form an eddy. Here we procured the rock, imbedded in which Mr. Murphy and I found the petrified honey-bee, of which he writes.

The shale scaled off, leaving the whole upper part of the bee bare. The position of the bee and its surroundings would indicate, either that it had fallen into the water at this point, or that it had drifted here with the current from above, and been caught in the eddy, and held by it until the water, becoming thick and turbid, had deposited sediment around it, and held it in the same position in which it was when first drowned. Its head was a little depressed, and its wings a little opened upon the back; two legs on each side were clearly to be seen. Each segment of the abdomen, the thorax, the upper part of the head and eyes, and the outlines of the wings, were as clearly defined as in the living honey-bee.

MR. MURPHY'S STATEMENT.

In the interest of science, I hereby state, that, in the fall of 1879, while cutting stone at Mr. Wiltse's, we found imbedded in the rock a petrified honey-bee in perfect condition, resembling, in all respects, the native honey-bee of this section of country. JAMES MURPHY.

To suppose that the sub-variety of this race, marked with yellow (of which I wrote in a former communication) received their markings from an admixture of Italian blood, is to suppose an impossibility. They were procured in the spring of 1861, in an old box hive that had not swarmed the year previous,—a time when frame hives and Italian bees were not known in this part of the country,—in time of civil war, and so soon after the first successful importation of the Italian bee, that the idea is preposterous.

As to when the Italian bee was first successfully imported, see Patent-Office Report for 1861, p. 324.

I inclose Mr. H. A. King's views on this subject, as expressed in the October number of the *Bee Journal* in 1873, in reply to questions from me in regard to this same race:

There are no "native bees," in the sense of existence here prior to the advent of civilization. The Indian calls the bee "the white man's fly," because the white man brought the bees to this country, and they have not preceded the advance of civilization westward. It has been only a few years since bees were first taken to California. For a year or more they were sold for about \$100 per stock, and many of the vendors made so many stocks from one, that purchasers often lost all their stocks. The black bees imported from Germany bear in Europe, in contradistinction to the Italian bee. A number of apiarists in this country, especially in the South, claim that there is a grayish bee constituting a different race from the Italians. We have often noticed that old bees, and bees bred in old, dark-colored combs, appear much darker than young bees bred in new, light-colored combs. The old bees looked dark because they had worn out the light-colored down, which is easily rubbed off when wet. We should be glad to hear from some of our Southern apiarists about the gray bee.

And here is what Mr. K. Metcalfe says of the native bee of New Mexico:—

There is a wild bee here that is striped very much like the Italian. It is a brown bee with white stripes around its abdomen; stripes show more plainly on underside. Thick body and head like a house fly. They are very quick in their movements. I have killed many of them, and find their honey sack quite as large as that of our bee. The Mexicans say they always build in the rocks. I have never found but one den of them. I was making a long march across the mountains, without water, and did not stop to examine them. Our horses and mules stirred them up by starting some loose rocks down the hill, that rolled over their den. They swarmed out in great numbers. The Mexicans whom we had with us wanted to stop and smoke them and get the honey. I am sorry we did not.

Other evidence might be produced, but I consider the case fully established. JEROME WILTSE.

Rulo, Neb.

But where is that petrified bee now, friend W.? You surely did not throw it away, did you? It would be an excellent specimen for our geologists, and entomologists, too. I confess this subject is deep water for me, and I wish some of those in whose line it strikes would give us more light.

A BIBLICAL VIEW OF BEES AND HONEY.

IN translating the Hebrew Scriptures, no department has presented such insuperable difficulties as that of natural history. On this account, when we read of the pygarg, gier-eagle, night-hawk, fallow-deer, stork, heron, cormorant, ossifrage, and some others, we may be pretty sure that we do not know the exact animal the writer had in view when he was commanded to tell the Jews not to eat such and such ones. But as such restrictions are not now in force, it makes no difference to us if we can not say that this or that beast belongs to the bovine, equine, saurian, or strigidæ family.

In regard to the correctness of the interpretation of some words, however, there exists no doubt; and one of these words is *bee*, as the equivalent of the Hebrew word *deborah*. The primary meaning of this word *deborah* is, to arrange in a row; to regulate. This is doubtless in allusion to the geometrical habits of the bee, observed by man in primeval ages.

The Old Testament speaks of bees but four times, and not in a very flattering way then, if we are to consider them as mere pets. In Deut. i. 44, Moses says, "The Amorites chased you, as do bees." In that country, the "upper stories" consisted of convenient cavities high up in the rocks, and countless thousands of swarms "transferred" themselves from place to place, and not infrequently took absolute and undisputed possession of the territory. When we consider the vindictive nature of the Oriental bee, it will be evident, that no more formidable enemy could be met, especially in such cloud-like numbers. But how could so many bees "winter" successfully? Tropical countries produce a greater abundance of flowers than our latitude, and these flowers have a far higher percentage of honey than those raised here, and this honey can be gathered the year round, and was not eaten five months in a year amid the frosts of an almost arctic winter.

In Psalms cxviii. 12, David says, "They compassed me about like bees." He was speaking of what he seems to have considered very malignant enemies, and this verse goes far to show that the bee was no insignificant opponent in his day, about three centuries and a half after the preceding verse was written.

Isaiah flings a stick at the bee in the seventh chapter of his book. He says, "The Lord shall hiss for the bee that is in the land of Assyria." To describe the horrors of an Assyrian invasion of Judea, the prophet compares the attack to the sudden rush of bees upon an enemy. It is said that in those days the bee could be called forth by hissing, and made comparatively manageable. Surely, the ancients must have missed the old tin pans of our age!

The first recorded case of "robbing" is that of Samson. The muscular youth was on his way to Timnath to do a little courting, for he was then paying his addresses to a woman of that place. While on the way, a young lion came out and roared at him. The writer was careful to say *young* lion, for an experienced lion would not have challenged Samson. The challenge was immediately accepted, and Samson tore the cub as though it had been a kid, and flung the carcass away. The hot, desiccating wind of that country will dry fresh meat in so short time that putrefaction can not ensue; and when Samson returned he found the carcass filled with honey. Reaching down, he pulled out a broad fr—

no, simply the honey, I guess it was, and went on his way eating it, lacking nothing but milk and apple dumpling to make a good meal. This gave rise to his riddle—"Out of the eater came forth meat, and out of the strong came forth sweetness." Samson was the original "honey extractor," and this is the first time we read of honey being made in the "lower story."

"By their fruits ye shall know them." This is just as true of bees as men, and I do not think the meaning of Jesus is perverted when I so apply these words. The Bible everywhere makes the most honorable mention of honey, which word is also correctly given as the correspondent of *dabash*.

The first mention of honey in the Bible is Gen. xliii. 11. Jacob was about sending his sons back to Egypt; and, in accordance with the customs of those days, he sent down some presents to the royal heads of that country, and among others was "a little honey." This shows that honey was ranked among the greatest delicacies of earth. I can not agree with those who say that Jacob intended to *cell* the old king by any such proceeding.

In Ex. xvi. 31, we read that the miraculous manna tasted like "wafers made with honey." This indicates the high esteem in which honey was held as food. This is further evident by these passages:—

For the Lord bringeth thee into a land of honey.—DEUT. viii.

Make an agreement with me, until I take you into a land of oil olive and honey.—II. KINGS xviii.—and many other places.

In Proverbs, we find honey alluded to in a more specific—almost medicinal—manner. "My son, eat thou honey, for it is good." The son finds it *very* good, and apparently eats very liberally. We next see him back of the house, making some literally *mellifluous*—honey-flowing—sounds. A head appears at the window, and a voice says, "Hast thou found honey? eat so much as is sufficient for thee, lest thou be filled therewith, and vomit it."—(PROV. xxv. 16.)

The pleasure of eating honey is greatly enhanced, to me, by the fact that Christ partook of it after his resurrection—"They gave him a piece of a honeycomb."

In this manner do many of the sacred writers mention honey, placing it very high among articles which God has kindly given to man through the agency of that respected insect, the bee.

Medina, O., Oct. 28, 1880.

W. P. ROOT.

A BEE DISEASE IN WARM WEATHER.

JUST a few lines to ask your advice on a case of "bee disease." It is only one colony out of 42 that is so affected. It was a black stock in the spring. I introduced an Italian queen, and extracted from the upper combs only. They were in a Simplicity hive; and so, thinking it would stop the disease, I put them into a chaff hive and tucked them up good and warm, but it has not stopped it. The bees are dragged out of the hive by those not affected, and flutter in the dust; they can not fly; their abdomens are very much swollen, and they finally get over on their backs and die.

It was a very powerful colony before it was so affected, but they are decreasing rapidly. I can sweep up a good-sized teacupful every night.

Would it be advisable to take away their honey and feed them with good white-sugar syrup? or what would be your advice?

I commenced the season with 18 fair colonies; increased to 42, and took about 600 4 $\frac{1}{4}$ sections, and about 150 lbs. extracted. I had made calculations for a much larger yield; but *our* calculations so often fail! It has been a very dry summer, and is so at present writing. I did not get any white honey.

HONEY FROM THE LEAVES OF THE CATALPA.

I came very near forgetting to tell you about the catalpa-tree. It belongs to the family of *Bignoniæ*. There are about 6 trees just around me. They are planted for ornament. It was rich in honey this year, both in the blossoms and on the underside of the leaf. At the axles of the main ribs, the leaves are large. The drops would be large enough for 2 loads, I should judge. And did the bees work on them? I should have been very much pleased could you have stood underneath those trees and heard their merry hum; but you would have had to be up nearly as early as you were on the morning that you found out about the Spider plant. It would have dispelled some people's notions about plants and flowers secreting honey only from the blossoms. It is the last tree to leaf out in the spring.

W. G. SALTFOED.

Poughkeepsie, N. Y., Sept. 28, 1880.

On receipt of the above, I wrote friend S. as follows:—

If it has not ceased when you get this, I would take away all the comb, and give them empty ones, and feed them on granulated-sugar syrup.

Here is his reply concerning both items:

Please find inclosed a part of the leaf I told you secreted the honey. They are a little touched by frost now. Their right color is a deep green. The colony I wrote you of dwindled down so they are on three combs. I fed them as directed, and I think it has checked the disease. Thanks for information.

I packed some of your chaff hives last fall with red-cedar sawdust, the cushions as well, and I don't believe I lost a single bee. The enameled cloth was always damp whenever I looked in, but no frost. This is my second summer with bees, but I have never lost a colony, either by robbing, swarming, or otherwise. I shall try to winter 42. All praise due the A B C and the journals.

W. G. SALTFOED.

Poughkeepsie, N. Y., Oct. 18, 1880.

We have the catalpa-tree in our town, but it has, so far as I know, never produced any honey. The above facts, and a host of others, seem to indicate, pretty conclusively, that almost every plant in the vegetable kingdom may, at times, be in condition to secrete honey; and, more wonderful still, it may come from the foliage instead of from the blossoms. I have many times seen bees prying around on the underside of leaves of different kinds, as if they were in search of something, or had at some time found something there that they remembered. The leaves sent show a black spot at the place where the large veins branch out. To be sure that there is no microscopic insects that have contributed to the production of the honey, a careful microscopic examination would be well, and I have given the dried leaf to the boys, but they can not detect the remains of any such agency.—In regard to the bees: I think most diseases of that nature may be cured, or at least benefited, by a diet of pure sugar.

HOW TO KEEP BEES.

SOME OF FRIEND MUTH'S IDEAS.

THERE is, in my estimation, no hive which combines so many advantages, and has fewer objectionable points, than the Langstroth. The only objection made to it has been, that the frames are too shallow for a successful wintering—an objection which hundreds of us, for years past, have proved to be no objection at all. We winter bees in Langstroth hives as successfully as bees are wintered at all; and Langstroth's disciples are counted among the most successful bee-keepers in the country. The shallowness of the broad-frame, with the honey-chamber immediately above, imitates nature the nearest, and is, consequently, apt to give the best results. We must keep in view, that not wintering alone is our object, but a full honey harvest. Give me, therefore, a shallow frame—a frame just deep enough to insure successful wintering.

Bees, if left to themselves, keep their brood close together, and store their honey above. It should be our aim in early spring to get these few frames, composing our brood-chamber, filled with brood. By the aid of division-boards, we can give our bees just as many combs as they can well cover. They can control their temperature better in a smaller apartment, and breeding is promoted. Their frames will be filled with brood from end to end and from top to bottom. When without division-boards, we find small patches of brood in perhaps twice the number of combs, but amounting to not half the quantity of brood. We should at no time allow a vacancy in any one of our hives, if we care for the welfare of that colony.

When using division-boards we have to examine about once a week, and add an empty comb as the number of bees increases. Division-boards should not touch the bottom by $\frac{1}{2}$ inch, as bees will help themselves lively from combs of honey hung on the other side of them. Our few frames being filled with brood at about the beginning of the honey harvest, we may put our section boxes on. One at a time is perhaps best, adding another just as soon as a lively progress is noticed. We have then large colonies, and may not only expect large returns, but, as there are so many young bees hatching all the time, the queen is kept busy refilling with eggs those cells just vacated, that no swarming fever may turn up if the necessary room to store honey is given above.

When the queen has the necessary room to deposit eggs, and the bees have the necessary room to deposit honey, no swarming will take place. This we may set down as a rule. But there is no rule without an exception. A queen may be crowded for room when a comb filled with honey is on each side of the brood. No difference how many empty combs hang on the other side. So may bees, especially Italians, be crowded for storeroom if we don't give one full comb above, serving them as a ladder to run up on.

C. F. MUTH.

Cincinnati, O., Oct., 1880.

PREPARED PAPER FOR SEPARATORS.

WE commenced experimenting with paper for separators in 1871, and, although we had tried every thing we thought suitable for the purpose, we never fully succeeded until we coated the paper with shellac. We have thoroughly

tested them made like samples, and find the bees unable to cut them. We have used a good many like the samples, and not one of them has been injured by the bees.

PREPARED PAPER FOR THE BASE OF FDN.

The fdn. is made on lighter board, prepared in the same way.

I made a crude bath for dipping, and, as I had to dip at the side of the can to avoid the lumps of wax, I did not get the paper coated the same thickness on both sides. I drove to York (making a round trip of 44 miles), where, through the kindness of Messrs. Rians & VanEaton, the fdn. was made. As you have all things necessary for making fdn., I send samples of paper for trial; and if you succeed any better (and I have no doubt but that you will), please send me sample by mail. I tried some on the wrapping-paper, but succeeded in getting only one fair sample. I regret I did not have more paper to send you for trial. As the machine does not seem to injure the paper at the base of the cell, I think this must be an improvement on wood for this purpose. In making, the sheets of paper would have to be cut the size to be used, as it would not do to cut them—at least, not until after the cells are drawn out by the bees, unless the edges were again coated.

Sample sent is one I used when they came between edges of boxes. The result was, the comb was made $\frac{1}{4}$ in. thicker, and boxes glassed up as much (the 12 boxes weighing 25 lbs.) as the 5x6x2 boxes.

We shall keep the paper for separators (also the comb fdn., if it proves to be a success), to supply bee-keepers the coming season, price list of which and directions for shellacking the paper, will be given in our 4th annual circular, issued in Jan., 1881. We shall discard tin and use paper in the honey-boxes altogether.

Honey is hardly half a crop in this part of the State, our crop from 84 hives in spring amounting to only 2900 box and 109 extracted, at most. I expect to winter about 150 hives.

Mr. Rians thought fdn. on paper wall could be better made on press instead of rolls. J. E. MOORE.

Byron, N. Y., Sept. 28, 1880.

The shellacked paper is very nice, and we are much obliged to you, friend M., for it; but I am afraid it will not prove sufficiently substantial. It would be better than tin, without a doubt, because it is a non-conductor of heat, unless the bees will be more apt to attach the honey to it. Your experiments have doubtless satisfied you on this point. The objection to wood as a base for fdn. (that it takes too much wax to bring the base of the cell into proper shape). I think will apply here. I have experimented a good deal on paper of all kinds; and, although I have good combs in my apiary built out on paper, I can but think it is as yet a failure, and principally because of the additional quantity of wax it requires.

A BEGINNER'S UPS AND DOWNS.

I SEE, in Oct. No. of GLEANINGS, a number of letters, some reporting success, and some blasted hopes, and so I thought I would give my experience in bee-keeping. In the fall of 1878, in a trade, I got some 10 swarms of bees in miserable old gums, which I brought home, and thought I would try to see what I could do at keeping bees; but as

it was so late in the season, I could do nothing but study and prepare for the coming spring, and, accordingly, I sent for sample copies of some of the leading bee magazines, of which I selected GLEANINGS, and have been a subscriber since. Then I sent for your A B C, and also for King's *Text Book*, all of which I studied with zeal until toward spring, when I sent for a Simplicity and a chaff hive, and went to manufacturing hives, waiting patiently for the time to arrive when I should try my hand at transferring, which I did with success, many thanks to your A B C, and so launched out on my first season of bee culture, which was a poor one in this locality; but I got about 100 lbs. of surplus, and increased to 17 swarms, but not very good ones. And here let me say to any new beginner, be cautious about dividing for the sake of a big increase, until you are thoroughly conversant with the business; but with good packing, and feeding some grape candy in Feb., 15 of the 17 came through to April 1st O.K. But the 10th of April, which was a very warm day, I happened away from home, and, like some children when the old folks are gone, my bees thought they would have a playspell; and, from my wife's tell, they had a big one, and the consequence was, when I got home they had got so mixed up that I had but 10 swarms left, and I tell you I felt as if I ought to go into Blasted Hopes. Nevertheless, I gathered up the empty hives and took care of the combs, and made the best I could of a bad job. So, you see, I started in this season with 10 swarms again, but with more experience. The 10, I have increased to 14; got 200 lbs. extracted honey, 100 lbs. in pound sections, and nearly 200 lbs. in L. frames, which I kept to give to any swarms I might get of my neighbors, who were going to sulphur theirs. My 14 swarms are all packed for winter, and are full of bees, and have from 20 to 30 lbs. of honey each. I forgot to say, that in July I got a dollar queen from King & White, New London, O., which arrived safely by mail; was introduced without any trouble, and proved to be purely mated. I also got one queen from her eggs, which has produced bees nearly as light-colored and distinctly marked as those of her mother. And now, friend Root, what would be your advice in regard to making a house apiary to hold 38 to 50 swarms? I am thinking about it, because I have so little room, and want to increase my stock another year as much as possible. Do the house apiaries prove a success? and will a swarm on the north side of a building do as well as on the south? I have only an acre of land, and am breeding several different kinds of fowls, and so I have to economize ground as much as possible. I took my extractor, a hive, my smoker, and some honey, to our fair at Troy, Pa. The extractor was quite a novelty, as there were hundreds who never saw nor heard of such a thing. Although I got no premium for the articles taken, yet I think it a good thing, for there were a good many wanted me to furnish hives, and transfer their bees in the spring.

H. E. CHACE.

Gillette, Pa., Oct. 18, 1880.

Very good, friend C.; you have learned some very important lessons, and I think you will get along nicely now. If you can not get room on the ground, perhaps it would be well to build a house apiary; but they are being generally discarded. Taking the season right through, the bees will do just as well on the north side of the house as on the south side.

Heads of Grain, From Different Fields.

HONEY AS A MEDICINE.

CONSIDERABLE has been said of late about bee-stings as a remedy for certain ailments. Even if the testimony of the witnesses had been favorable, and it should have been proven that bee-stings would cure rheumatism, I fear that most people would prefer the disease to the remedy. Now, I propose to advocate the virtues of a medicine which is pleasanter to take than to expose one's self to the venom of 50,000 bees for the sake of absorbing the juices of their "business end." Two years ago this fall, after taking a severe cold, I found myself troubled with a bronchial affection, which clung to me with more or less severity for a year or more. During the last six months I have eaten honey very freely, and during the summer and fall when extracting, I ate honey all the time I was at work, besides at meal time. I found that no medicine was so grateful to the palate, in allaying the tickling sensation which causes the slight coughing. I am nearly cured, and I attribute it to the honey. I have taken no other medicine for a year, because physicians did me no good. Honey used to give me a severe colic; but of late I can eat it at all times with perfect impunity. Although troubled somewhat with dyspepsia, yet I can eat honey any time in the day without any bad effects.

I should like to hear from others on the subject of "Honey as a Medicine." If it is true that it is good in bronchial or lung diseases, it will be a very pleasant remedy to recommend to our friends. No wry faces when they take our dose. EUGENE SECOR.

Lime-Valley Apiary, Forest City, Ia., Oct. 18, 1880.

SOME OF THE TROUBLES OF IMPORTING.

In the last few days I received an invoice of ten queens from Bianconcini, Bologna, Italy—not a live bee in the lot! What shall I do about it? I have spent about \$20.00 already, and still have no imported queen. The *tested* one I got from you last March, after doing me good service, tramped off with all my bees—I mean from her hive. One of the dollar queens is all right, giving three-banded bees; one is lost; the other, I think, is hybrid. R. K. WALKER.

Darien, Ga., Oct. 14, 1880.

I can hardly tell what is right in such a matter, friend W., but I know what I would do if the case were mine. I would pay you your money back, and pay all expenses; and if I could not stand it to do business in that way, I would stop doing business. Of course, this is with the understanding that you did faithfully all your part in the transaction.

ITALIAN BEES AND CHAFF HIVES.

I think this is the poorest honey season we ever had. The most of our bee-keepers say their bees did not swarm, and got but very little honey. They are mostly blacks, and in box hives. I got some to try the Simplicity and chaff hive, and fdn. and sections. They think they are so nice they want me to transfer their bees into my hives next spring. Well, I have told you about my neighbors' bees and now I will tell you about my bees. I have 57 swarms; 27 in chaff hives. I made a chaff hive last spring, a

year ago, and transferred an Italian swarm into it, and it gave the first swarm. I put it into a chaff hive this season, and I got from the parent stock 67 lbs. section honey; from the swarm, 81½ lbs. section honey. I got 50 from another. They were the best I had. One black swarm gave 27 lbs. surplus. They all have their lower stories filled for winter.

Ashland, O., Oct. 18, 1880.

T. J. ELLIOTT.

WHEN TO PUT IN A FRAME OF CANDY.

Suppose you have several swarms of bees with, say, two-thirds honey enough to winter, and wish to give them a frame of candy; where will you hang it—in the center, or at one side of the hive? Then, again, if there are five or six cards of comb partly filled with honey, wouldn't it be better to place the candy on top of the frames? I think bees have generally done quite well in this vicinity during the past season.

L. E. BEMIS.

Athol, Mass., Oct. 18, 1880.

The bees will take it much quicker if put right in the center of the combs; but if you do not watch them they will build a comb in place of the candy as soon as out. A tray of candy on top of the frames is better, only it is more in the way when we are raising queens.

HONEY-PLANTS, ETC.

Your new cover for GLEANINGS is nice; the design is splendid. Bees in this locality have for three years hardly made a living. The Spider plant did not secrete any honey here. The bees did not notice it, but worked late and early on the hemp, which is a good honey-plant. Simpson's did well; but the best thing we have here through the dry weather of July and August, of the wild weeds, is a large variety of verbenas. We have three kinds here, but the large purple is the bee-plant. We think if there is any one plant worth cultivating for honey alone, it is catnip. The honey is excellent, just minty enough to make it of good flavor. You spoke of hoarhound honey. For those who like the taste of hoarhound, it is nice honey, and has a double medicinal quality. I had so much this year I did not know what to do with it, and so pulled the plants up. There were enough around the yards and lanes to cover a fourth of an acre. I can furnish lots of it next year, if it yields honey as it did this year, for the ground is covered with young plants from the seed.

Pearl millet is the best plant for pollen we have found. I have seen bees so eager for it as to hang to it all night, and work on it by moonlight. I do not think it affords much honey, but the pollen is soft and very yellow.

I have a wax-extractor that cost me 75 cents to get made. It works like a charm. I would tell you about it, but am afraid you would not have time to read it, seeing this is so long. WM. EMERICK.

Sumner, Lawrence Co., Ill., Oct. 16, 1880.

I have two apiaries—one of 75 and one of 40. This spring I got 1800 lbs. of box honey from the 40, and increased to 70. I ran the 75 for extracted honey; they gave me 6000 lbs., and increased to 100. I have plenty of buckwheat, but it did not yield first-rate. I see a few of your correspondents wonder why the bees don't work on such and such flowers. The reason is, I think, it is too cold; to secrete honey, give us warm nights. Then look out for a heavy basswood yield; 6 days this year; last year 5 days. In 1878 it lasted 10 days. The weather was still and warm,

without any rain. Rain will use up flowers very quickly, I think. What do you think, Novice? That is what we knew you by when E. Gallup gave you a crack over the knuckles, and you gave him as good as he sent, in the old *A. B. J.* My wife thinks you have got that bee in the wrong place on the new cover to correspond with the words, "Peace on earth, good will toward men;" or, at least, that is not the kind of bees we have here.

W. LAMAR COGGSHALL.

West Groton, Tompkins Co., N. Y., Oct. 18, 1880.

A BARREL OF BEES.

The two one-dollar queens I ordered were to go with a barrel of bees which a neighbor proposed to give me if I could get them out without destroying the comb. I thought I could draw or smoke them out, but by neither process could they be induced to leave their home.

THE DRUMMING-OUT PROCESS.

By the way, friend Root, this is one of the points in which the *A B C* book is wanting. It covers the field of scientific bee culture pretty thoroughly, but it does not reach back to *first principles*. Perhaps you will say I should write it *false principles*. Well, so be it; but when you revise the book, just tell us how you would get the bees out of a barrel alive, and without destroying the barrel or cutting the comb.

Failing to accomplish my purpose with the barrel of bees, I turned my attention to some young swarms which my neighbor thought it advisable to *take up*, and I soon had four of the old box hives knocked to pieces, and the bees in two separate boxes. I had plenty of bees for two strong swarms. I brought them home and turned them loose on some frames of brood and honey from my other hives, and they took up their abode with me at once. I then hunted up the queens; and here, by the way, is another suggestion for the *A B C*.

HOW TO FIND A BLACK QUEEN.

It has always been a matter of much difficulty with me to find the queen in a comb among thousands of her progeny. To expedite matters, and make a sure thing of it, therefore, when I want to find a lot of queens I lift the hives from their stand to another directly in front of it, having previously tacked a newspaper between the two stands, on which to shake the bees. I then place an empty hive on the old stand, which I raise from the bottom-board by a couple of wedges just enough to let the workers pass in, but not the queen; then from the first hive I lift one of the center frames and brush off the bees on the paper, placing the frame at once in the new hive. I then take another frame, while another keeps a sharp lookout for the queen at the entrance, and I usually find her before four frames are placed in the new hive. If a number of queens are to be hunted up, several hives may be thus treated at the same time to advantage. The bees will be crawling in all the time, leaving a less number to conceal the queen.

FEEDING, TO MAKE BEES ACCEPT A QUEEN.

One of my queens flew away while I was trying to introduce her, and the other I worked with a week, releasing her every day only to have her balled, till, finally, the idea occurred to me to bribe the bees with a dish of sugar syrup to accept the queen. They took the bribe, and accepted the queen at once.

You were right in regard to the queen-cells which I wrote to you about some time ago. They were all

hatched out when your card came to hand. Ten days later, all the young queens were laying.

TOO MUCH BROOD IN THE FALL; IS IT PROFITABLE TO HAVE?

They have done well since in the egg-laying line,—so well, indeed, that I fear they may devote so much of their winter supply of honey to brood-rearing, that they may find themselves short of stores before spring. Do you think there is any danger of this, with a supply of 24 lbs. of honey? The selected queen which I got from you last July gave up laying several weeks ago; and, as her hive was rather light in bees, I have been feeding them maple syrup for the past two weeks, every night, and only yesterday did I discover eggs in the combs. If a pound of maple sugar will make a pound of Italians, as I have seen it stated in *GLEANINGS*, this hive has a fine prospect before it; for I have fed them about 6 lbs. of the sugar.

MAPLE SYRUP FOR WINTER STORES.

How is maple syrup for winter stores? Perhaps I have been doing a wrong thing in feeding them so much of it that they have been obliged to store it up in their combs.

This is my first season with bees. From three hives in the spring I have built up to eight. I took about 60 lbs. of honey from the three hives when I transferred them, and have fed 36 lbs. of sugar to furnish them with the necessary stores for winter. It has been all outlay with me this year; but next year I hope to reap some return for my expenditure of money and labor.

JAMES MCNEILL.

Hudson, N. Y., Oct. 15, 1880.

Under TRANSFERRING, you will find, friend M., directions for drumming out the bees, but it does not get out *all* of the bees, and sometimes it gets out only a very small part of them. I do not know of any way to get them all out, without destroying the barrel, or cutting their combs. Why not transfer them in the usual way?—Your plan of finding the queen was added to the *A B C* in the last lot printed.—Maple sugar or syrup is wholesome for winter, if good; but a poor article is about like feeding brown sugar. It will do for a warm-weather feed, but not for winter.—Feeding the colony to make them good-natured, when introducing a queen, has often been recommended, and I have just now penciled it to go in next *A B C*'s printed. Thank you for reminding me of it.

EARLY-AMBER SYRUP, ETC.

I was reading, in *GLEANINGS*, your method of manufacturing the Amber sugar-cane, and it seems to me that you are a little behind the times down in Medina. We raised about $\frac{1}{2}$ of an acre of the Amber sugar-cane, and it made 115 gallons of nice amber-colored syrup. We made it in little over a day. We used the Cincinnati Victor Mill and the Cook pan, copper, 12 feet long, on a tilting arch. We have made sorghum syrup and considerable sugar ever since the seed was introduced into Michigan. We have made as high as 2500 gallons in one season. The greater part of our business now in the fall is making jelly from cider. We use no sugar. Mr. Hawley, of Napoleon, has a large cider-mill that runs by steam. My son and his son-in-law make jelly for him. They run two copper pans, Cook's patent, 12 feet long. They average daily 220 gallons of nice jelly from apples—nothing else. Some days they make

over 100 gallons each. Last winter I had 32 swarms of bees. They came out all right in the spring, and looked very promising. I was sick all winter and spring, and let out my bees. They did not swarm till the first of July, and then only a part of them; but they were the largest swarms that I ever saw. They hived them, but they left for the woods, all but three swarms. I think it was for the want of honey. It was the poorest season for honey in this section that I ever knew. They put boxes and sections on the most of them, but very few made any surplus honey probably 75 lbs.

I got up a sawing-machine, and run it by horse-power. I made my hives and frames with saws, ready to put together and nail. One-half of them I made chaff hives. You may look for a small sample of sorghum syrup made on Cook's evaporator from the Amber cane; also a sample of our apple jelly. The jelly was made from part sweet and part sour apples; not as good flavor as all sweet apples. I think if we should use a little time to neutralize the acid, it would do to feed to bees spring or fall for winter stores. J. T. WEEKS.

Napoleon, Mich., Oct. 12, 1880.

The samples are both very nice: many thanks to you, friend W. The Amber syrup is certainly very much lighter in color than our own, but I think it was because some of our cane was not well ripened. At the first planting, some of it failed on account of the dry weather, and so we planted again, and the second crop was not fully ripe when cut. I think the apple jelly might do for bee feed late in the spring, or in very early fall, to keep up breeding; but I would under no circumstances think of using it for winter stores. The Amber syrup is so near the color of honey, I should not be surprised if it would do very well, even for winter stores; but such experiments should be made cautiously, on a few colonies at a time. What can you sell such for, by the barrel? Our children are inclined to prefer it to honey.

THAT WATERING-TROUGH; A SUGGESTION.

I was reading about your watering-trough, and I wonder why you have that mudhole beside it. Surely, that is neither neat nor convenient. My brother-in-law has a trough at which the public, man and beast, may drink, but it is minus the mudhole. Before he set the trough, he dug a deep drain, commencing where the back of the trough would be, and running it on down the side of the road a few rods, and then across the road; then he filled this drain with broken stone, and set the trough, after cutting a nick in the back edge, so that the surplus water all runs out on the stones and away down the drain. He covered the drain with earth, on which the grass grows, and it is dry and nice all about the trough. I have noticed people look down at their feet when standing near the trough. I suppose they were looking for that mudhole. E. H. McClymond.

Templeton, Armstrong Co., Pa., Oct. 21, 1880.

Neither is there any mudhole around our watering-trough now, friend M.: but I fear it is not as tidy as the one you mention. Thanks for suggestions.

FORTY SWARMS FROM FIVE, AND THEIR INCREASE, ETC.

I am around again! Well, I must tell how my bees have done. They did not do much but swarm. I

was too busy to attend to them until it was too late to keep them from swarming. I had 40 swarms out of 5 colonies, and the increase. Whew! nothing but bees; it was too wet, more than half the time, for them to work through the latter part of buckwheat. My last buckwheat was a failure for honey; but buckwheat is good, and goldenrod helped them along, so that I will have 23 in fair condition for winter. O my! the doubling up, you just ought to see. Don't you think I ought to be in Blasted Hopes, only about 100 lbs. of honey from 5 colonies? Well, friend Root, no giving up, even if I am nearly in there. I will get about 15 hives with nice straight combs to start for next summer.

A WORD TO BLUE EYES.

Now, see here, Blue Eyes, I am after you! I want to know how many swarms you can raise out of your hive of bees. I see you sitting on your pa's lap. God bless you, your pa and ma, and brothers and sisters! May be I will come to see you yet. If I go to Ohio, to see my brother and sisters, I will come home that way; but, oh how I will pull your nose! My baby is now 13 years old. Ain't she a whopper for a baby? I am going to send you some radish seeds, and if you sow them I will tell you how to make big ones. If they commence to shoot up for seed, you just go after them and pick those shoots off, and you can raise them three inches through in good deep soil. Well, this old ugly man who scolded your pa once had better stop writing, had he not?

Your friend, and friend of all young folks.

St. Johns, Mich., Oct. 17, 1880. H. L. WARSTLER.

Many thanks, friend W. Blue Eyes will be very glad to see you if you can get her over her bashfulness. You must have had a long-continued yield of honey to have had so many swarms from five, it seems to me. If they should happen to keep on, and do the same thing next year, where will you be?

BUILDING COMB ON THE WAY.

The queen and bees seem none the worse for their long trip. They had built comb, and attached it to the side of the box, and the queen had filled it with eggs. I cut off this comb and inserted it in a queenless colony, and will try to raise a queen from the choice eggs. I am much pleased with the queen and bees. Thank you for your liberality.

F. N. WILDER.

Forsyth, Monroe Co., Ga., May 18, 1880.

MOTH-WORMS IN THE BONES.

Worms have made their appearance in my 1-lb. sections, which I have kept in a tight case since their removal from the hives, and so I suppose I must have carried in some eggs or worms with the honey. Can you give me a remedy, if there is any, that will not damage the honey? I can not find any thing concerning worms in surplus honey in the A B C.

H. L. RAND.

Boston, Mass., Oct. 14, 1880.

Under the head of BEE MOTH, my friend, you will find your case fully considered. Pick out the worms by hand, if there are but few, and no more will come. If there are too many for that plan, fumigate the honey according to directions in A B C.

WINTERING BEES UNDER THE SNOW.

It has been a rather poor honey season here. It has been the driest season we have had for fifty years. I have taken 80 lbs. of box honey from 12 col-

onies; which is better than most people have done. I wish to submit one question to you and the many bee-keepers that read GLEANINGS, in regard to wintering bees under the snow. I have never tried it, and therefore I ask for information. I have four hives that sat where the snow will drift over them four feet deep—one of them a chaff hive. Will it be safe to let them sit there through the winter?

CHARLES B. ELLIS.

Corinna Center, Me., Oct. 16, 1880.

I believe it is generally conceded, that bees are a great deal better off covered with snow than without it; and the more snow the better. The only point that needs to be looked to, so far as I have learned, is to be sure that they do not stand in a low spot, lest, when the snow melts, the water run into the hive. Snow is sufficiently porous to allow all the ventilation needed, without taking any pains to clear it away from the entrance. Of course, mice should have no possible means of access to the inside of the hive.

I will now report my progress as a bee-keeper for 1880. I have taken 320 lbs. of section honey from 10 stocks, 30 lbs. being the most from any one single hive. I had no increase. Other bee-keepers in the neighborhood have realized comparatively nothing, so to speak, and complain of the season as being a poor one. White clover yielded nothing, and we have no basswood to speak of. Honey retails at 15c per lb. for comb, but there is no extracted in the market; but if nothing happens to prevent, I think I will place some on the market here next season.

EVAPORATING CANE JUICE, ETC., BY STEAM.

I believe you have made a beginning toward revolutionizing the manufacture of molasses. There are advantages in your mode of boiling the juice of the cane that can not be had with any other mode where the heat of the fire comes in direct contact with the juice. This is one cause of so much dark-colored syrup; the boiling is uneven. By boiling with steam, you not only have a steady heat, but all danger of burning the syrup is removed.

I was not bothered by the bees this year again, and I seem to think that they don't care much for cane juice or molasses, for my bees had quit storing honey, and, before I was half through working at the mill, the honey flow stopped, and until then I did not see one bee about; but then I saw about two or three a day until I was done, and they did not seem to care much for it. Nearly all I worked was early amber. I have about 2 lbs. of early-amber seed that I am going to thrash out. I believe the seed of early amber here is much larger than it is further north. I got some from Wisconsin last spring, and it was much smaller than ours here, and the seed I got from it is as large and fine as any.

A suggestion.—Why will your mode of boiling cane juice not be just the thing to cure green, unripe, extracted honey, make bee candy, etc.? No danger of burning, I think. Please give us your method of thrashing cane seed.

T. J. COOK.

Newpoint, Ind., Oct. 20, 1880.

I did not invent boiling syrup by steam, friend C., but only the plan of making these tubes in a cheap and cleanly way, of tin. I confess I am greatly surprised at the rate these small pans boil, and I presume it is much owing to their being made of such thin tubes. It is a most excellent arrange-

ment for melting candied honey, evaporating thin honey, melting grape sugar, or any thing of that sort.—We thrash our seed with a flail, but it don't thrash as easily as wheat and oats, by considerable.

WINTERING ON CANDY ONLY.

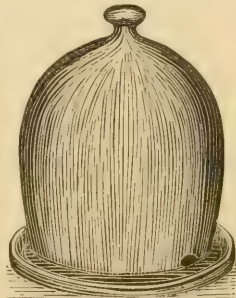
Did you ever winter bees on your candy feed without other feed? I have had weak swarms in the spring cluster against it and die. I think it was because they had no honey.

S. H. HOUGH.

New Milford, Portage Co., Ohio, Oct. 26, 1880.

It is always dangerous to depend on candy for a weak colony in cool weather, and that, too, with *any* kind of candy. If we have a strong cluster that will warm up and melt the lumps so they can get them into their combs, I have no fear of them; but in giving any colony candy when they are out, or very nearly out, of stores, we must watch them until they get started on it. After they have got to consuming it briskly, it will furnish animal heat enough so they will go on without danger, unless there comes a *very* cold snap. There is nothing so safe as a frame of sealed stores, in such cases; but these stores may just as well be sugar syrup that has been fed in warm weather, as combs of honey. I have wintered a colony on candy alone.

A NEW WATER-FONT, OR FEEDER.



I have just sent you a water-font. To fill it, put it in a pail of water, with one hole out of water. When filled, hang or set it level. If this font meets your approbation, and you would like a number of them, I will furnish them for 10 c. apiece, at the shop, or on board the cars, in good order.

HENRY TALMAN.

Eldora, Ia., May 25, 1880.

This water-font is made of stoneware, and is a very pretty-looking utensil for only 10c. As they are a little heavy to ship, perhaps our friends who want them would do better to send direct to friend T. I presume they can be made readily at any potter's, for I saw the same thing on my recent visit to friend Stahl's, in Mogadore. In having them made, be sure to tell the potter to make the holes so small that bees can not get inside. In using some of our board feeders, I first got the grooves too large, and the bees, in their eagerness, would push into them, even under the liquid, and be drawn up into the jar by atmospheric pressure. Something of the kind made of glass would be very neat, and I presume they will answer just as well to water small chickens as bees. Is there a glass-worker among our readers? The font sent us would, I should guess, hold about a half-gallon.

DANGER FROM TWO QUEENS IN A HIVE.

The queen you sent me Sept. 13th came all right. She was very dark—so much so that if I had seen her with black bees, I would have taken her for a black queen every time. I was just five days in getting

her introduced. I took her out of a ball of bees five different times. I tried to introduce her the day I got her; and when, on looking for her half an hour after, I found her in a ball of bees with one of her wings nearly torn off. I tried her every day for five days before they would receive her. On opening the hive about 10 days after she commenced laying, I saw a queen very much like the one I had just put in, only she was much smaller, and had perfect wings. I knew this was a young queen, and I took her out; and on the next frame I found the queen you sent me. They have not tried to supersede her since.

YELLOW BEES FROM DARK QUEENS.

I just finished packing them in chaff yesterday, and find that her progeny are all three-banded bees, but they are dark. A stock in this same hive played that game on me three years ago; viz., by raising a queen and destroying the one I had put in after she had been laying two weeks; but they did not succeed this time. The first bees were black, but these last ones were pure Italians. All are packed in chaff, ready for winter when it comes, and I feel pretty sure that all (20 swarms) will come out in the spring O. K.; at least, I am sure they won't starve.

J. W. KEERAN.

Bloomington, McLean Co., Ill., Oct. 29, 1880.

FLORIDA AS A HONEY STATE.

In your remarks to H. A. Harriman, in *Blasted Hopes*, May No., you justly charge him with carelessness; but there is a point where he shows the trait, that you did not mention. He says, in speaking of bee-keeping in the South, "So far as my experience goes, it is *not* a bonanza, and at present I am inclined to think the profits will not be so great as in the North. Our honey is not so smooth, a little more acid, and has a greater tendency to make one cough than Northern honey; is darker generally, and, when extracted, is sent to city markets and sold for manufacturing purposes, and has to compete with molasses. In 1879, mine netted but 45c per gallon—not quite 4c per lb. Again, the honey-flow is more continuous, but not so great at any one time, so that brood-rearing goes on briskly, and but very little surplus is stored." His carelessness is shown by using the words, "Southern honey." All this may be true of Arkansas honey, but it is *not* true, in a single particular, of Florida honey, and I believe Florida is considered a Southern State. The honey-flow here, instead of being continuous, is divided into four seasons, with two, three, or four weeks of drought between. The honey here is as smooth as any in the North, and most of it light-colored; in fact, our cabbage-palmetto honey, which forms the big crop of the season, is *so smooth and so light-colored*, that many fear that it will not sell in the North, on account of consumers thinking it a manufactured article. We have but one crop of dark honey, and that is the last one of the season, and is used to feed back during the next spring. As to the profits here, I fail to see any reason why they should not be *far greater* than in the North, as we have to go to no expense to winter, and we never lose bees on account of the cold. The bees increase very fast, and we *NEVER* have a year without a good crop of honey. We can ship our honey to any of the big markets by water, which is always cheap transportation; and as we have more good pine growing in Florida than in any other State in the Union, hive-lumber is cheap. When I came to Florida, I cried "Eureka!" I was

correct. If any one wants to ask questions, send stamps, as I can not afford to spend time and find stamps and paper, for the sole benefit of entire strangers, as many seem to think. W. S. HART.
New Smyrna, Fla.

TWO QUEENS IN A HIVE, AGAIN.

I am what you might term a beginner in the bee business. I had two colonies last summer in the old-fashioned Langstroth hive; last fall I tried to Italianize both colonies, and I succeeded with one. The other Italian queen, by some means or other, got killed. The old black queen that I took from them also died. I was under the impression all winter that they were without a queen. I thought to raise them a queen by giving them brood this spring, but I discovered early that bees were increasing. I transferred from an old L. hive to Simplicity on the 12th, and found a black queen and any amount of brood, and quite a number of Italian bees.

Now, the query is, where did the queen and Italian bees come from? or do black bees ever have two queens? It was the second day of October when I took away the old queen, and I am certain she died. Now, friend Root, what is your opinion on the matter? My bees wintered well, and I think they will swarm soon. H. C. N.

Strattonville, Clarion Co., Pa., May 20, 1880.

Two queens in the hive, undoubtedly, friend N. You killed the old one, probably, and as she was of little or no use any way, they thrived just as well.

WINTERING IN A HILL-SIDE CAVE.

I shall have to bother you with one question: My first lesson in the A B C commenced with 6 and increased to 19. I want to winter without loss. My apiary is on a south hill-side. I have dug in the ground, and put straw under the hives, and an inch board on each side, and banked them with straw and then dirt, up to the top of the lower story. Please tell me if this will do. All are 7 and 8 frames, with cushions on each side. I take off the oil-cloth cover for winter. WM. MALONE.

Oakley, Lucas Co., Iowa.

If you can avoid dampness, you will succeed very well in the hill-side, so far as wintering is concerned. But this plan, as well as all other plans of indoor wintering, will, many times, keep the bees damp and cold, when they would be warm and dry in the open air. A single hive in the open air warms and dries through in a very short time during any warm, sunny day; while your hives in the cave would be cold and damp. If you can make your side hill so as to be a perfect protection from cold winds, and yet admit all of the sun, it will be a great help; but I do not believe I would have any earth overhead, unless you inclose the hives like a cellar.

TWO QUEENS IN ONE HIVE.

Please send me a tested queen; I will stand the loss, if any, by mail. I got one two weeks ago; the two, one for a neighbor, came all right; but as I did not heed your warning (be sure there is no queen present), I am out a queen and a dollar. "How smart we are when we find it out ourselves!" Please send by return mail. GEORGE W. DILLON.

Canton, Stark Co., O., Nov. 1, 1880.

CAGING QUEEN-CELLS OVER THE CLUSTER OF BEES.

Please give some directions how to cut out queen-cells and put in small cage, and also in regard to putting over cluster of bees to hatch out. Please give particulars in full. I tried the plan, and out of 8 cells there were only 4 that hatched; and it appears to me that only those that were laid horizontal hatched, and those that I put in the cage with the apex of cell upward failed to hatch.

DR. H. J. PETERS.

Rogersville, O., May 21, 1880.

If I am correct, no one has succeeded very well with your plan of hatching queen-cells, friend P., and this is why the idea has been discarded. I think the cells hatch a little better if they are placed pretty nearly in the position in which they are usually built, although we seldom take any pains to turn them thus in the lamp nursery.

TRANSFERRING IN OCTOBER, ETC.

I am busy transferring from box to L. hives and frames, and all are doing well, despite the pestiferous robbers. The two colonies I transferred three weeks ago have filled their frames with unsealed honey, and some of the queens are quite busy.

I send you a sample of the insignificant little weed that grows profusely all over the country here, from which and from goldenrod our bees are now filling the hives. We call it "stickweed." Can you tell what its botanical name is?

The species you inclose is *Aster miser*, which has been so frequently mentioned in back numbers.

Some months ago my friends and acquaintances thought, and even suggested, that I was just a little "daft" on the subject of bees and bee culture; but since I have talked with many of them, and loaned them GLEANINGS and A B C and Langstroth, I find many of them taking the contagious fever; and I think next spring you will have from this neighborhood five correspondents and customers where you had one or none last season.

About those gray-back bees. How do you account for them? There are too many for it to be a freak of nature; besides, they are just as industrious as the other workers. Each has a white spot like a drop of milk or paint on his back, and they seem to be a shade larger than their companions.

I have a large hybrid colony of two-banded bees. I thought I was mistaken at first, but an hour's close observation satisfies me that nearly all of them have two distinct yellow bands, and the other two bands are narrow white. All who have looked at them notice the difference between them and my pure Italians, as much as the difference between them and the one-banded ones. Are they three-fourths Italian? It is a large and very industrious colony, judging from the way they pour out of the entrance all day.

L. M. SHUMAKER.

North Danville, Pitts. Co., Va., Oct. 11, 1880.

There is very little trouble in transferring in October, or, in fact, at any other season, when the bees are getting honey enough to enable them to build comb.

I fear you have not read your A B C book, friend S., or you would have seen about the bees with the white spot on their backs. It is not a race of bees at all, but simply because the bees are getting honey from the wild touch-me-not.

The bees you mention are probably from a black queen that has met an Italian drone. They are often marked in that way.

DAVIS' TRANSPOSITION PROCESS.

I think it ought to be well known, that the transposition process is not always a success, and that those who buy queens will be much more likely to get what they expect. Last season I transferred larvæ into 7 cells, and waited results; and what were they? I got two Italian and five full-blooded black queens. The black bees removed the Italian larvæ, and replaced them with black larvæ. I did my work very carefully.

L. S. JONES.

New Philadelphia, Tusc. Co., O., May 21, 1880.

You say you did your work very carefully, friend J., and yet you admit that the blacks had larvæ of their own that they *could* put in place of what you gave them. I should not call that "carefully," at all. We always let them build cells of their own, until their larvæ is all out of the hive, and then tear down their cells and graft them, and they are obliged to use the Italian larvæ, whether or no.

AN A B C SCHOLAR'S EXPERIENCE.

About the 1st of July I sent to you for a dollar queen. She arrived safely on the 7th, when I, being laid up by severe affliction, called on a friend to introduce her. He killed the old queen, and introduced the Italian, and the bees killed her right away. I immediately sent to you for another, which arrived in good time, and in good order. I was still in bed, but I got my friend to introduce her. By this time the bees were anxious for a queen, and accepted her at once, and she went to laying right away. But from some cause, the colony had become greatly reduced, and it was very difficult to keep it up in living order. I was quite busy after I got up from my affliction, and neglected them for a couple of weeks, when, about Oct. 1st, I noticed one day while the family were at dinner, that my bees were swarming. I went out and found my Italians leaving their gum; but, fortunately, I had clipped the madam's wings, and she was found on the ground in front of the hive, and we put her back, and all the bees returned at once. I immediately examined the inside of the hive, and found it minus honey, plus a great many worms. I at once removed all the frames that had signs of worms on them, which left me only four sound frames, with no young bees of any age. Bad fix, you say. Well, I thought so too; but I gave them some common sugar syrup, and in two days there were eggs in two of the frames, and in ten days two frames were capped over full of brood, and the bees have been very busy ever since, carrying in pollen. I have kept up the feed; and intend to keep it up through the winter. Do you think I'll bring them through all right? My bees are beautiful three-banded, leather-colored ones; longer, but not so heavy nor plump as my other bees. I have given my Italians two frames of black brood to keep up the colony since introducing the queen, and I can now every day make a comparison as to size. The Italians seem more lively than the blacks in their motions, but I can not say as to whether they are preferable or not.

JAMES BUSSEY.

Bastrop, La., Oct. 20, 1880.

You can feed them all winter and build them up, in your locality, without any

trouble at all, friend B.; but you want to keep them going, after you once get them started. Bees, like people, sometimes get discouraged, and won't try; and we wish to be careful to avoid letting them run short of rations, or any thing of that kind. I think you can make your Italian colony swarm, by February or March, if you crowd them along as you are doing now.

SAVING BEES FROM THE SULPHUR PIT.

I had the good fortune to save four large colonies from the sulphur pit yesterday, to which the owner had determined to send them. I transferred them to nice new L. hives and frames, and this morning they are cleaning up their homes, throwing out dead bees and other *debris*. But, strange to write, the four box hives did not furnish a quart of extracted honey, and not a single sheet of white comb. I have now a pile of black stuff (once comb) that would fill a water-bucket, and I can not do other than burn it. I saw young bees that had been hatched in some of this comb that were but little larger than house-flies. The time when the first colony was placed (*not hived*) in the oldest gum, was so far back that, as my Lord Chief Justice Coke would say, "the memory of man runneth not to the contrary." I never saw such sheets of comb in my life, and hope I shall not soon again.

L. M. SHUMAKER.

North Danville, Pitts. Co., Va., Sept. 23, 1880.

STILL ANOTHER FEEDER.

I will tell you how I made my feeders. They are simple, and any one can readily obtain them. I procured some one and two pound oyster-cans (in the back room of the stores); at the bottom I punched a hole from a quarter to half an inch; rolled a piece of tin a size larger, and two inches long; soldered it to the can, and then tied a piece of flannel at the other end, covering it like a strainer; then with my pocket-knife I cut a piece of soft pine to fit in the top, to prevent bees from getting in. I use mine by boring a hole just above the entrance and letting the spout go in, and fastening the can by a wire hook soldered to the side at top. It works well, and puts the feed inside, while the can remains outside, to be examined to at will.

F. M. LEDBETTER.

Greenville, Ga., Oct. 15, 1880.

A REPORT FROM THE CYPRIANS FROM FRIEND HAYHURST.

I have one of Mr. D. A. Jones' "fifteen-dollar" Cyprian queens. She was received too late to test her fully this season. Her worker bees are beautifully marked on the lower as well as the upper part of the body. I have ten laying queens from her; they also are well marked, and so nearly alike, being almost perfect counterparts of the mother, that it would be difficult to make a selection. If she continues to breed thus, I shall value her highly, as most of my imported Italians have produced a great variety of color in their queen progeny, many of them being very dark, even when raised under the most favorable circumstances.

E. M. HAYHURST.

Kansas City, Mo., Oct. 26, 1880.

AN A B C SCHOLAR'S REPORT.

As I do not see Minnesota very well represented, I thought I would report my success in bee culture, although I am only an A B C scholar six months old. Last spring I started in with six weak colonies of bees; but not understanding the ways of the little "busy bee," I was advised by our friend Hon. J. P.

West, of Wells, to subscribe for a bee journal, and so I sent to you for A B C, and also subscribed for GLEANINGS, which I read with great interest. In June my first swarm came out when I was away from home, and left for parts unknown. Thought I, I will put a stop to that, and so I went to work and divided them. Then I sent to friend A. I. Root for a queen. She came on immediately, and I introduced her to my best colony. She went right to work laying, as though nothing had happened. She proved to be a pure Italian, and I have raised over 20 beautiful Italian queens from her, and have increased my apiary to 24 colonies, besides extracting over 300 lbs. of nice honey, and got my apiary Italianized also. How is that for an A B C scholar only six months old?

Don't drop the cartoons, for they will bring on a smile when other things won't; and you know that is very essential when a fellow has been transferring black bees.

L. C. SEATON.

Banks, Faribault Co., Minn., Oct. 25, 1880.

MORE HONEY THAN A MAN CAN LIFT.

I will state, that I think my bees have done well, considering the fearful drought. I have swarms that have filled three hives solid with honey; that is, I placed two empty bodies of hives on top, one above the other. I fail to find any one who has got muscle enough to raise them off their foundation.

I must state, that the 1 lb. of bees I got of you the 19th of June has built up to a rousing swarm, and has filled a 1½ story hive solid with honey.

Greenwood, Col., Oct. 15, 1880. H. H. C. BRUCE.

Very good, friend B.; but if you had this honey, or at least a part of it, in 1-lb. sections, it would bring you from 20 to 25¢ per lb.; but as it is, you will probably be troubled to get 15¢ for it. I know that great amounts of honey can be obtained by piling hives up in that way.

QUERIES ABOUT HONEY-PLANTS, ETC.

I am thinking some of setting out some Simpson and Spider plants next spring, but, before doing so, I should like to know if they are hard to get rid of, should a person desire to get them off from the land. Also, will they grow on sandy soil (side hills)?

Will sweet clover stay where sown, or will it run all over the plantation? Our bees gave an average of about 15 or 16 lbs. per colony; some none, one 50 lbs.

SOMETHING ABOUT FRIEND MORGAN.

Though but 26 miles from friend Morgan, we did not get hit by his big honey-storm. The hills between the two villages must have kept it confined in the Trempealeau. The fact is, friend Morgan has scooped the pile of us this year.

Our honey in 1-lb. sections took the "palm" at our fair, besides making a stir among some of the bee-keepers.

F. O. POLLEYS.

LaCrosse, Wis., Oct. 14, 1880.

The plants mentioned are in no more danger of becoming troublesome weeds, than tomatoes and cabbages; in fact, they are just about like them, in respect to hardiness. I fear they would not bear much honey on sandy hill-sides, unless the ground was good,—say any good corn ground. Sweet clover is very easily got rid of by plowing it up, because it never blossoms until the second year. You must get up early, next season, friend P., and not let friend Morgan get all of the great honey yields.

EGGS NOT HATCHING; HAVE BEES EARS?

As I am an A B C scholar in bee culture, I would like to ask a few questions. About 4 weeks ago I introduced 4 Italian queens, 3 of which laid and raised a nice lot of bees, and the other laid the second day after I let her loose, but never hatched an Italian bee. What was the reason? I also put some eggs in the hive and they are all gone. The queen is all right, for I saw her to-day. I also put eggs in the 3 other hives, in which I inserted Cyprian queen-cells. From 2 of these the eggs were removed. One of the young queens, in 4 days after, laid in the same piece of comb, and plenty all around it; the third one has the brood sealed over. The eggs were all from the same frame. I have 50 stocks in good condition for winter. I use the L. hive, with a chaff packing case. It has been a poor honey season here, especially the fore part, there being no white clover. I have 7 swarms that I got when they were going to take them up—2 Italians that were buckwheat swarms. Will it do to winter them on sealed honey without any pollen? I have one Cyprian that I got in August. She is a good layer.—Do bees have ears? A friend of mine thinks they have none.

C. J. HAIGHT.

Rush, Susquehanna Co., Pa., Oct. 20, 1880.

The colony that would not hatch any of the eggs given them, I think had got discouraged, for some reason or other, and did not take care of them. Where a stock is quite weak, weather cool, and no honey coming in, they sometimes act in this way.—About bees hearing: This is an old question, and I do not remember now how it was decided,—if, in fact, it was decided at all. Some experiments seemed pretty conclusive that bees do hear; others, that bees do not, where sufficient pains was taken to be absolutely certain their hive was not jarred. Mrs. Root thinks they hear, because so many of them would come to the pump when they heard the chain rattle. Will Prof. Cook please tell us if bees have ears?—Pollen is not at all necessary for wintering, and some think they winter even better without any. Of course, they must have it before they commence brood-rearing.

THICK COMBS IN TRANSFERRING.

I am very enthusiastic on the subject of bees. I have been transferring lately, and have had excellent success. The only trouble I have is in not being able to get as many cards in the new hive as I think they need, as they are so thick. Some of the hives will hold only six frames, so thick is the old comb. Will they do well with that number?

E. Z. WOOD.

East Smithfield, Bradford Co., Pa., May 16, 1880.

The thick combs will do no harm, unless the bees begin small bits of comb in the spaces below, or because it leaves too many cold spaces at the approach of cool weather. On this account, you should begin to trim off the protuberances as soon as they get the combs well fastened, and gradually bring them up into proper distance. The brood combs can be pressed one way and another until you get the combs straight and flat. The comb is frequently found too large for the frame when the bulges are straightened out; and in such cases, cut out a slice next the bottom-bar, and, if necessary, draw the bottom-bar up against the comb until the

bees fasten it, with a transferring wire. Where bottom-bars are found bent downward so as to kill bees, we bring them straight in the same way. Bring your combs into good nice shape, and then keep them so. Bad, crooked, ill-shaped combs in a hive, year after year, are an expense, both to the bees and their keeper, that should not be tolerated.

When the honey season opened I had 50 stands of bees; increased by natural swarming to 78, all in movable-frame hives, and in good condition for wintering. They are the common black bees; made 2300 lbs. of comb honey, some in 6-lb. boxes and 1½-lb. sections; 150 lbs. extracted, making a total of 2450 lbs. of honey, averaging 49 lbs. on the old stocks; my best hive made 117½ lbs. comb honey. Nearly all is buckwheat honey; the yield in this locality was very good. The early honey was a rather short crop. An open winter, which froze the clover root, and a rather dry summer following, was, in my opinion, the cause, although the season opened well on raspberry and fruit blossoms. Bees did not swarm as much as usual as supplies fell short in the height of the swarming season.

PREVENTION OF EXCESSIVE SWARMING.

I do not approve of too much swarming. One good swarm from a strong stock of bees is plenty for profit. All other swarms should be returned to the parent stock. The way I return such swarms is by living them in a box or bee-hive cover, and placing them as near the parent stock as I can, close by the side of it, and letting them remain there about 24 hours; then, return them, queen and all, and they will not swarm again, as a general rule perhaps not once in 10 times. I often take a part of such swarms to increase weak stocks, taking their queens away to supply queenless stocks during the swarming season. I am well satisfied with the result. This season compared well with the general result all over.

GROONER GOFF.

Stevensville, Sull. Co., N. Y., Nov. 1, 1880.

BEES DON'T OPEN GRAPES.

According to promise, I now give you the result of my experiments with grapes. As soon as the bees commenced on the Catawbas, I selected a large bunch of sound ripe ones, mashed a portion of them, and laid them on a hive in my apiary, and in a short time they were covered with bees. I then took my seat by them, and, with a large magnifying-glass, watched their movements until they had cleaned up all the juice that laid around loose. I then smeared all the sound grapes with juice, and watched them clean it all off, and they never allowed their jaws or pincers to come in contact with the grape. They used no means, except their antennæ, or tongue, which they slightly doubled under, near the point, and, instead of sucking the juice through the point, they wiped it up as a person would water with a cloth, only not quite so fast, but much faster in proportion to their size. I also watched a number of wasps, from time to time, and discovered that, instead of trying to open the grape, Mr. Wasp would force his head between the grapes and imbibe the juice from a worm-hole, by drinking with his mouth and not with his tongue, as the bees do. I then procured a nice grape, with a minute hole in one side containing a worm, and laid it close to the cluster on the hive, put some juice over it, and soon had several bees at work wiping it up, and as I sat with

my glass, saw the little worm pop out of the hole, as if frightened by the bees crawling over it, and ensconce itself between the next two grapes, and at once commenced fortifying itself. In less than an hour it was completely hidden by a web of its own weaving. I then left it until morning, when I found the skin of the punctured grape, but no bees about; and, on separating the two grapes, I found them both punctured. I examined them, but the worm had very mysteriously disappeared. I then from time to time would mash a grape and put the juice over the others, which would soon be visited and licked off by the bees, and the sound ones always left untouched, and they are still lying on the hive, dried like raisins, nice and sweet. By my experiments, I am forced to the conclusion, that, instead of the honey-bee destroying sound grapes, she only gathers the juice of those punctured by the worm, or otherwise injured, and thus deprives us of the pleasure of swallowing many a tiny morsel of delicious fresh meat along with our grapes. She has the capacity to cut open any grape, but not the instinct to do so; which, if she had, the bees would in a very few days destroy every grape in the land.

BEE-STINGS AND RHEUMATISM.

I am 58 years old, and have from time to time been troubled with rheumatism in my neck, and on several occasions have been stung exactly on the affected part, and it always aggravates the complaint for a day or two, without eventually appearing to do any good nor harm.

GRAPE SUGAR FOR WINTER FEEDING.

I fed about a dozen hives this fall, with syrups of grape and cane sugar, mixed, as follows: To 4 lbs. white coffee sugar, 1 quart water; and to 4 lbs. grape sugar, 1 pint water; heat both to a syrup, then mix, using 2 parts grape and 1 part cane syrup, by measurement. It makes a very nice syrup, and, so far, I can not distinguish it from pure cane syrup, in the cells, and the bees appear to like it equally as well. I will report results in the spring.

Oxford, Ohio.

D. A. McCORD.

SPIDER PLANT GROWING WILD, ETC.

I commenced with 20 colonies; reduced to 18 by uniting, and now have them in fine condition to go through the coming winter. All in L. hives. I am perfectly delighted with the business, and the strangest thing to me is, that I reached the age of 47 before I knew I had any such taste. I find that the hybrids in my stock have succeeded better in honey-gathering than the full Italians, colonies about of equal strength; notwithstanding, I hope to get rid of all my hybrids next spring or summer, from the fact that they are worse to rob and sting, I think, than pure Italians. I am inclined to think we have the Spider plant, known here as the "polecat plant." From the representation in your A B C, it is doubtless the same thing.

M. S. WATERS, M. D.

Bethel, Tenn., Oct. 28, 1880.

You are probably right about the Spider plant. I have been told it grows wild in the South; and, if I am correct, it has before been recognized as a plant known by the name you mention.

LOSING (?) TEN DOLLARS.

I must tell you how you did not get ten dollars that you were about to get. This summer we had a drought for nearly two months; bees had almost quit brood-rearing. I was just upon the eve of

sending you the above amount for grape sugar, when I noticed that calm, satisfied hum in my apiary, which you have described as the sure sign that honey is being brought in. I opened a hive, and, sure enough, there was the fresh unsealed honey. This was about the middle of September, and the yield continued until frost, Oct. 17th. Many hives that would have required feeding, now have plenty for wintering; so, this is the way you lost the ten dollars, and I know you are glad of it. My bees are about half hybrids and full Italians; I raised my queens from one bought of Dr. J. P. H. Brown, Augusta, Ga. Give me hybrids for honey, swarming, stings, and robbing.

J. A. CLEMENTS.

Villanow, Ga., Nov. 4, 1880.

Thank you, friend C. I think a great deal more of earning such good opinions of my friends than I do of the money they send me; although, during these fall months, \$10.00 bills seem to do a wonderful sight of good, it does me more good to hear of yields of honey coming unexpectedly.

DOES THE POSITION OF THE CELL AFFECT THE QUEEN?

You no doubt have observed, that all apiaries have some certain few hives that do better than the others, and yet no visible cause,—the queens being prolific, and the workers more vigorous, producing double and sometimes treble the amount of honey. I have never heard a satisfactory reason given in any bee journal. I am quite sure that I have discovered the cause; viz., the queens are reared in horizontal cells, same as workers, only longer; a little rim on end of cell 1-16 of an inch long presenting the appearance of a drone-cell, except rim. In conversing with queen-raisers, all say that queens appear, of which they can not account, at times. I have investigated the matter to my entire satisfaction, in three different cases, such queens producing the above-named result. I have one such queen whose hive produced 240 lbs. of honey, and gave more than double of help than any other hive in making new swarms. I saw her hatch out of such a cell last year. In raising cells, I find, where great numbers are produced by a hive, I can almost always find 2 or 3 such cells, and sometimes more; but I never noticed, until this year, that they were the best queens. If I am right, one more step forward in our industry. Please give the matter some personal thought.

A. L. KLAR.

Pana, Ill., Nov. 4, 1880.

Although the position of the cell may make some difference, friend K., I am strongly inclined to think you will lay less stress on this particular point after a more extended series of observations. Is it not rather the quantity of royal food that the bees have placed with the queen before she is sealed up?

I exhibited those things at our fair, but, as there was no other apiarian display, nor any competition, I of course got no premium or anything. It seems to be the general opinion, that this is not a good country for bees. We have neither clover nor basswood, and bees don't work much on buckwheat, and I never seen them on goldenrod and asters; and yet my bees have paid me very well. I never lost any yet. I think we can afford to raise honey-plants here, for we can get land for \$3.00 per acre. Labor on a farm is only about \$12.00 per month.

Nashville, Barton Co., Mo.

JOHN UMHOLS.

BEES DYING SUDDENLY.

Your postal was received, in regard to my bees dying. About the time I received it, they had stopped a little, and in five days it was all over. I looked in the hives, all of them, and they have plenty—every one being full, and some working in the sections. After they quit dying, they were one inch deep in front of the hives for a distance of 6 feet out, being both young and old bees. I cleaned them up and carried them away, and swept the yard, and now I see nothing wrong. As for the Spider-plant seed I got of you, I got 13 plants, and they bloomed and were doing well when a heavy frost killed the last one of them. I watched them every day while in bloom, and saw the drop of honey very plainly. I will get some more seed of you next year. I got only 3 Simpsons.

D. F. C. HAMBLY.

Spanish Ranch, Plumas Co., Cal.

I am inclined to think, friend H., that it was something your bees gathered that caused the mortality. After the plant had ceased blooming, they stopped dying, as you mention. I presume you are sure it was not a case of poisoning, like the one mentioned in the Nov. No.? When bees begin to die in that way, I would feed them heavily with granulated-sugar syrup.

Bees have not done much here this summer. Linden and clover were failures. Bees did not get any more than enough to live on until the middle of August, when strong stocks gathered some surplus. I got 425 lbs of comb honey from 17 hives.

J. H. MORRISON.

Warsaw, Hancock Co., Ill., Oct. 18, 1880.

CAN BEES CONVERT WORKER EGGS INTO DRONES?

I have recently had an item of experience bearing directly on that point. I mentioned, last week, the loss of queens in their flight. One has returned, and is laying. The other swarm, to which I gave two frames of brood in all stages, have sealed several queen-cells and built out one-fifth (by estimate) of the remaining cells for drones, and have them sealed. Most of them protrude about $\frac{1}{4}$ inch. The hive from which I took the frames had no drone brood, and has none yet. Appearances indicate that even bees think and reason and forecast to a greater extent than some are willing to admit. These bees raised a queen, and lost her through scarcity of drones. Realizing this, apparently, they are now providing drones in order to avoid a recurrence of the calamity; and the probability is, that the eggs from which they are being raised were fructified. Is the foregoing conclusive evidence, that bees can raise drones at will from worker eggs?

Georgiana, Fla., Aug. 19, '80. FRANK A. WHITE.

Aug. 25.—Some of the drones are hatching from the cells built on worker brood. If the bees had proved to be workers, as I thought it possible, though not probable, the foregoing "item" would have proven that bees as well as men are liable to fail in carrying out their plans. As it is, how can any one say, "'tis but chance," when it is so manifestly the accomplishment of a part of the law of their existence, which law, though not yet fully understood by man, was given by a Being as far above man in knowledge and wisdom and power, as man is above the most insignificant of creatures on the face of the earth?

F. A. W.

I at once wrote our friend, that I thought he *must* be mistaken, and asked him to be sure to tell us if the eggs were in worker cells; if in drone, of course they were laid as drone eggs in the first place. Here is his reply:—

The entire frame in question was worker cells. The hive from which it was taken had but few drone-cells, and they contained no eggs. The queen was not crowded, for only enough honey was coming in to keep up brood-rearing. There were no eggs in drone-cells in any of the hives, five in number. Father, mother, and I, estimated that about one-fifth of the cells in said frame were drawn out for drones, the capped excrescence protruding fully $\frac{1}{4}$ inch beyond those capped as workers. Many of them hatched before the queens, some after. It did look "knobby"! It is the only frame I have seen treated in that way. I am inclined to the opinion, theory to the contrary notwithstanding, that bees have full control of the sex produced from an impregnated egg. I think all intelligent apiarists concede that they can control two of the sexes. We know that an omnipotent God has given them this power, and it seems to me probable that it is extended to the remaining sex.

The experience referred to above has set me to thinking on this subject, and in order to draw out the truth, if possible, I will ask a few questions:—

Does the anatomy of a queen show an ovary where eggs can *not* be impregnated, and one where they *can*? Can a drone from a fertile worker's egg impregnate a queen? Can the drone of a "drone-laying queen" impregnate a queen?

If any one has already investigated this subject in all its bearings, microscopically and experimentally, I should like to be informed, as I have not the facilities for either examination or experiment.

Georgiana, Fla., Oct. 9, 1880. FRANK A. WHITE.

I think, friend W., that the eggs in the ovaries of the queen are all alike,—unimpregnated. The impregnation takes place as the egg is laid, while passing the mouth of the spermatheca. Berlepsch decided, from a single experiment, that drones from a virgin queen are capable of fertilizing queens; but, although several of our readers have at different times kept virgin drone-laying queens for the purpose of having young queens fertilized very early in the spring, I believe no one is very sure that these drones served the purpose. I have always supposed it impossible for bees to produce drones from worker eggs; and, in fact, eggs have been cut out of worker cells and skillfully placed in drone comb, and *vice versa*, but they always hatched out drones or workers, just as if they had not been moved. Your case is a little different, however, friend W., but still, not unlike the very common experiment of placing a frame of worker eggs in a queenless colony for the purpose of getting queen-cells. So far as I know, these always hatch out worker bees, and I must still think that your comb would have hatched drones in worker cells all the same, if the comb had been left in the original hive where the eggs were laid. It is not unfrequency to find a queen that suddenly, as it were, lays quite a patch of drone eggs in worker cells, and this, too, at a season when drones are not needed.

Notes and Queries.

NEW USE FOR A SMOKER.

THE smoker you sent came all right, and sooner than I looked for it. It gives perfect satisfaction, and I must say it is a doubly useful article, for it is one of the best things out to blow and start the fire with, and so much fun for Albert that he is willing for me to lie and rest while he makes the fire. What an invention!

L. R. MUNDHENK.

Rose Hill, Darke Co., Ohio, Oct. 30, 1880.

[Well, I declare, friend M.! I am heartily glad you have found out that the smoker is good for starting fires, and I don't know but that all the women will be wanting one when it gets to be known; but I really can not approve of your lying in bed while the boy builds the fire. Why don't you get up and "flax around" at something else? If my boy should get up before I do, I do not know but that I should be offended—at myself.]

BEES AND GRAPES.

Bees *never* puncture the skin of the grape. I have watched them myself, and had others watch them. They suck the juice after the grape is punctured by birds or wasps.

OWEN H. WILY.

Leesport, Pa., Nov. 3, 1880.

WILLOWS; WHICH KIND ARE BEST FOR HONEY?

Which kind of willows are best as a bee plant, and how close should they be set for fence?

F. S. PADDOCK.

Perry Center, Wyoming Co., N. Y., Oct. 19, 1880.

[I do not know which willows are best for bees; but I seldom see bees on those used for hedges about here. A species taken from the woods sometimes yields large quantities of honey, apparently; but the finest specimen of willow for bees that I have ever found was a tree bought of a nurseryman. It was budded with a killmonark, but the top died, and the stock made a tree that was a perfect roach with bees for several days. Can any of our nurserymen readers tell us what it probably was? I should like a half-dozen trees for our grounds.]

Has any one invented an uncapping machine? Would such a machine be a valuable invention, if it would uncap both sides of a comb at once, and retail for about \$2.00?

O. H. HYATT.

Farragut, Fremont Co., Ia., Oct. 16, 1880.

[The idea has been many times given, and some machines made, I believe, but all are now discarded.]

Bees have done very poorly this year; increased from 4 to 7; not one taste of honey. Please don't put me in Blasted Hopes. I have been feeding all summer, and will feed all winter. I am full of hope for the future.

EDWARD TUNNICLIFF.

Kewanee, Henry Co., Ill., Oct. 22, 1880.

[Why, friend T., that seems to be the way with you all. You have had bad seasons and no honey, but still you seem hopeful. That is right; and one who trusts God, has a good reason to be always hopeful.]

SKUNKS EATING BEES, AGAIN.

My red-clover queen, got of you, has been losing some of her family by skunks. I shot two in my apiary.

F. W. COMINGS.

East Berkshire, Vt., Oct. 16, 1880.

HOW TO FEED EVEN HONEY OUTDOORS.

There is not the least difficulty in feeding honey or sugar syrup in the open air, if it is sufficiently diluted. I have fed honey thus for the past year, frequently with no robbing whatever.

S. W. MORRISON, M. D.

Oxford, Chester Co., Pa., Nov. 2, 1880.

PROCEEDS OF 2 COLONIES IN 5 YEARS.

Five years ago I bought 9 lian gums, bark included, cavities filled with black bees, etc. I soon introduced them to sash hives and gold-banded mothers, and have been selling bees fall and spring ever since gums went out of date with me. I have 140 left yet, and they are in good shape for King Zero; 100 colonies gave me, this poor season, 2000 lbs. section honey, and 1000 lbs. extracted. The above is nearly all sold, and I have the gold for it.

J. B. MURRAY.

Ada, Hardin Co., O.

We have only six stands of bees; but one new swarm this year; two stands made 150 lbs. of surplus; the other four made enough for winter use. I make my own hives, like Simplicity.

J. W. BOWEN.

Turkey Creek, Ind., Oct. 15, 1880.

Season bad; swarms on hand, 130; surplus, 7000 lbs., mostly extracted. Have fed back 500 lbs., and will have to feed in spring.

JAS. SCOTT.

Farley, Dubuque Co., Iowa, Oct. 29, 1880.

A CAUTION IN ADDING OTHER BEES.

We built up a colony for the queen you sent. She laid a quantity, but in adding a last frame of bees and brood, we got a queen in, and she killed yours. The young are beautiful, and thorough-bred.

Gadsden, Ala., Oct. 22, 1880.

A. W. BRYAN.

[Glad of the caution, friend B. Many a queen has been lost in this way, and I presume many a misunderstanding has arisen from just such occurrences.]

WHEN BEES FIRST CAME TO AMERICA AND WHERE FROM.

I think that "Hayden's Dictionary of Dates" states that bees were first introduced into Boston from Holland in 1767.

I may be mistaken in some of the above points, as it has been a long time since I have seen a copy of the book. (See letter of W. B. Terry, on page 220, May GLEANINGS.)

D. H. KELTON.

Mackinaw, Mich., May 20, 1880.

NEW COVER, ETC.

I don't wish to find fault, but, after reading friend Watt's comments on new cover, I will tell you what I thought when I first saw it. I think it is lacking in a mechanical point of view. The ladder has either a terrible kink in it, or is a short one, resting on the limb which is supposed to be hidden behind "Bee Culture." The "wigwam" hive should show the third post on the outside; and the bee in the "dome" looks as if it might be on its last wings, and few of them, going for something it could not quite reach. However, I think the design is quite neat, and much better than I could do myself.—I am at a loss to know how friend Dalzell can get stung and not know it. I think I should know when a bee stung me without having to be told of it, for it hurts considerably and a little more sometimes.—I had 39 colonies last May; took 2500 lbs. honey; 4-5 extracted, 1-5 comb, in winter quarters, with 46 colonies now.

JAMES A. NELSON.

Wyandott, Kansas, Nov. 3, 1880.

ITALIANS VERSUS BLACKS.

My report for this season, friend R., is not flattering. We have had a poor season. I started in spring with 14 colonies—2 Italians and 12 blacks. One Italian I fixed for swarming, and the other one for section honey; the one gave me two good swarms, and the other 100 lbs. of honey. My blacks gave me nothing; so you see if they had been all Italians I would have done better. I sold my honey very readily for 25c. per lb.

A. H. DUFF.

Flat Ridge, Guernsey Co., O., Nov. 5, 1880.

PEET'S CAGE.

I must here state, that I think Peet's cage for shipping and introducing queens, the best thing ever brought up yet.

F. M. WRIGHT.

Enosburgh, Vt., Nov. 9, 1880.

DO QUEENS OFTEN MATE WITH DRONES FROM THEIR OWN HIVES?

I would like to know if queens of one hive will mate with drones of the same colony. My opinion is, they will not. If this question is not O.K., do not trouble. I give, as an excuse for asking simple questions, I am "fresh," as a bee-man—only one summer's standing.

C. A. STEVENS.

St. Liboire, Bagot Co., Pro. Que., Can., Nov. 9, 1880.

[To be sure, the question is a proper one, and so is any question pertaining to bees, for aught I see. Send them along.—As a general thing, I think it rare that the queen meets a drone from her own hive; but if we have drones in profusion from her hive, at a season when they have none from other hives, she would be obliged, of a necessity, to meet those or none. At such times, the queen usually goes out a great many times before being successful.]

HOW TO MAKE A FOOT-POWER SAW.

The file and eye-protector came to hand safe and in good order; I filed the saw all right, and it cuts through inch stuff very well. My saw-table is made in this manner: Say that you were going to make a buck-saw saw-horse to saw wood on, thus: X; put on a top, so as to make a table. A friend made me a mandrel, with $\frac{1}{2}$ in. pulleys on the same, and the overseer of the machine-shop made me a shaft, one inch in diameter, 18 in. long, with a crank, and a connecting-rod, and I fasten a treadle-board to the rod, and work it with my foot. I have a 10-inch pulley for belt, and 24-inch balance-wheel to give it motion. It runs very well. I am well pleased with your goods.

FELIX A. CORTES.

Graniteville, S. C., Oct. 1, 1880.

[Very good, friend C. I suppose you put the shaft through where the X's cross. A crank on each end of the shaft would be better, and you could have one made movable, so as to slip the shaft through. Your frame will need to be stayed to something, or it will probably spring about too much.]

ENTRANCES TO THE SECTION BOXES; HOW LARGE SHOULD THEY BE?

If you thoroughly understand the nature of the bee, you have the opening too small between the boxes. You may take apart 40 old or new stands of comb, and you never will find a space less than $\frac{3}{4}$ or $\frac{1}{2}$ in. for the bees to pass and work in; and if they be allowed to make their own entrance to deposit honey, it will never be less than $\frac{3}{4}$ or $\frac{1}{2}$ inch. Your opening is scant $\frac{1}{4}$ inch.

J. C. TOWSON.

New Madrid, Mo., May 14, 1880.

[You may be right, friend T., about the space the bees choose to have between their combs; but I feel sure, from many experiments, that $\frac{1}{4}$ inch will answer all purposes for the slots in the section boxes. With a larger space they put on more propolis, and often little bits of comb, which they do not when they have little or no room to spare. The openings to our sections can never be less than $\frac{1}{4}$ in., but may be quite a little more, if the boxes are not keyed up perfectly tight.]

It did me good to see Mr. Hutchinson's apiary and twins. I have no twins, but can can send you a photograph of my bee-yard, in which I take considerable pride.

JAS. T. FIFE.

Corning, Ia., Nov. 3, 1880.

CHAFF HIVES.

Last spring I had ten swarms of bees in chaff hives. I was sick all the spring, and four swarms ran away at apple-blossom time. I have taken about 300 lbs. of comb honey from them, and have increased to 25, all in good condition for winter.

C. H. HOYT.

Norwalk, Huron Co., O., Nov. 8, 1880.

[Why, friend H., the chaff hives were a bad thing for you, if they enabled your colonies to build up so that they sent out swarms in apple-bloom, and were lost. Next spring, we trust you will not be sick, and that those early swarms will be taught better manners.]

I had 50 hives last spring; have 53 now; 1000 lbs. surplus, besides enough to winter on; 350 lbs. box, 650 extracted.

J. W. UTTER.

Pine Island, Orange Co., N. Y., Oct. 27, '80.

PLASTER FOR FDN. PLATES.

I want to make a Faris comb fdn. machine. I have plenty of the best of plaster. Some plaster will not calcine, and will not get hard, no matter what you put in it. I have been in the business long enough to know all about it. When I succeed, I will write you all about it.

H. W. WHITE.

Broad Run Station, Fauquier Co., Va., Oct. 30, '80.

BEE-STINGS AND RHEUMATISM; THE STINGS ARE A "SUCCESS," AFTER ALL.

We have read with interest the developments about bee-stings vs. rheumatism. Our report is as follows: Two years ago last spring, Mrs. K. was afflicted with rheumatism in the left upper arm, which continued four or five months; not acute, but very annoying. One day she had an accidental sting on the wrist of same arm, which caused a great and very painful swelling, continuing three days; but from that day to this she has not felt the slightest touch of rheumatism.

A. C. KENDEL.

Cleveland, O., Nov. 15, 1880.

HONEY FROM FRUIT-BLOOM.

A friend of mine has a colony of hybrids in a chaff hive, that has given him 7 broad frames of $4\frac{1}{4}$ sections full of honey, from fruit-bloom; likewise a rousing swarm on the 12th inst. You ought to rectify your statement in the A B C. Last spring, one of the colonies I got of you in 1878 gave me 7 frames of sections, $4\frac{1}{4}$, from fruit-bloom, and for the season, 150 boxes, $4\frac{1}{4}$, and 20 lbs. of buckwheat, extracted.

W. G. SALTFOED.

Poughkeepsie, N. Y., May 17, 1880.

Our Homes.

When a man's ways please the Lord, he maketh even his enemies to be at peace with him.—PROV. 16:7.

IT is true, my friends, that we may sometimes receive persecution for doing right, in this day and age of the world; but I think the cases are very few and far between, where one is persecuted for a persistent course of right living before God and his fellow-men. When I took the stand I did against tobacco, I made a great many bitter enemies; or, at least, it seemed so for the time being; but as time passed, one after another, in his sober, quiet moments, would acknowledge that I was right, in the main, in the stand I had taken. Said one of our leading business men, who does quite a large trade in tobacco and cigars, "Boys, Root is pretty nearly right about it; and the best thing you can do is to stick to your places, and throw away your tobacco."

A kind friend, who has more than once pointed out to me my faults, wrote the following soon after receiving our last number:—

"Enemies are more than the hairs of my head," and "persecuted all my life." Why call them enemies? Without doubt, they are perfectly sincere themselves—believe just what they say, and want to make you and other people see yourself just as you look to them. What difference does it all make to you? Are you any different in God's sight? You may be a great deal better if you can realize that there may be some truth in what each one says; and, instead of defending yourself, accept it as a blessing. If you are sincere and watchful, you will soon think they might have said much more with truth if they could have seen into your heart. Seems to me, the Lord has not yet succeeded in making you meek and humble habitually, if you have been persecuted all your life. When you cease *entirely* to feel them (the persecutions) as they affect you—won't that be blessed? Brocton, N. Y. "A."

I accept the reproof, my friend; and although it is by no means often that I feel that I have enemies, and am persecuted, I know I get into the spirit oftener than I should. I know there is truth in what people say, even if they do say it unkindly, and often in an exaggerated way; but one can, if he tries hard (by the help of his Savior), live in such a way that there will be very little ground for these things to start from. I know I am no different, and no better (and I oftentimes think, in my better moments, that I am not as blameless), as the average about me.

I once heard that young minister who taught me the way to life say, in his prayer, that he thanked God for his enemies, because they told him of his faults. I am trying to do this, my friend, and it oftentimes seems to me as if nobody else ever made such blundering work of it as I do. True, true, the Lord has not yet succeeded in making me meek and humble, or I should not have had so much persecution; for persecution seldom holds out long where one takes it with a Christian-like spirit. I used the verse

from David (about his enemies being more than the hairs of his head) perhaps a little unwisely. I found it in our morning Bible-readings, and had a good laugh over it. I wonder if David was not a little sour and despondent when he wrote that? It gave me comfort to think that even he had such troubles; and when I got at my work, it was running in my mind. You know I only said I was sometimes almost tempted to think as much. I do not really think I ever had so many enemies as that, even if they were all summed up. By the way, my wife says I should explain that the hairs on my head are now getting so few and scattering, that I should not have so very many enemies, even if it were all true.

By your concluding remark, my friend, I am to understand, am I not, that it is not a bad thing, after all, to feel that we are persecuted? The inebriate in the ditch feels no persecution, because he does not care for any thing that can be said. It follows, then, that it is right to care, when we are wrongly accused, providing we care in such a way as to cherish no hard and revengeful feelings toward the one who has wronged us. In a book written by Holland, called *Nicholas Minturn*, we are told what a task it is, and how much hard labor is involved, in getting those who have entirely lost self-respect to once more regain it. After it is once regained, then comes pride, and we have to be careful about going the other way. It is well that we have enough pride and energy so that we can be stirred to the very depths of our souls; but what a beautiful sight it is to see one who, when thus stirred, preserve a quiet and calm exterior! Suppose you are trying hard to lead a Christian life, and have got the better of most of your old sins, and have nothing but kindness and good will for everybody. Somebody asks a favor of you, that seems but a little thing to him; but you have reasons you can not well explain for knowing you would be doing wrong to grant it. You refuse as pleasantly as you can, and forget the matter; but the disappointed brother does not, and pretty soon, by some means, a rumor is started, that you are guilty of some of the sins of your old life,—say, that you had got drunk or lost money gambling. You do not trouble yourself about it until, finally, some friend brings you a newspaper, and, with his finger on the spot, shows you just what all your friends and enemies are commenting on.

But a few years ago it would have been the most likely thing in the world, and therefore everybody accepts it, almost without a thought. At first you are so stunned that you hardly take in the whole matter; but meanwhile your heart beats until you can hardly speak, and the hot blood of anger suffuses your face. What right has any editor to print such a false statement as that, and, too, without giving you even an intimation of what he is going to do? Why, there is A, B, and C, who should have known better than that; and yet, in some unaccountable way, every friend you have in the world seems, without the slightest scruple, to have turned against you. What is the right thing to do? Shall you show how untruthful it all

is by calling the editor and everybody else concerned in it hard names. Is it not a Christian duty of yours to have the maligners of your character prosecuted for the protection of others? You spring for your hat, and declare, inwardly, that "this thing" shall be sifted to its very bottom. All at once occurs to you these little words from the *Gospel Hymns*:—

Have we trials and temptations?
Is there trouble anywhere?
We should never get discouraged—
Take it to the Lord in prayer.

You wheel around, get off by yourself somewhere where there is absolutely no possibility of any one hearing you, and tell your kind Savior all your troubles. Before you rise up, you doubtless think of *one* thing, amid all your troubles, to be thankful for, and this one thing is, that you did *not* go and see the editor and give him a "piece of your mind." For some reason or other, you naturally turn to your Bible; and, as you open it accidentally, probably about the middle, as a Bible naturally opens of itself about the middle, your eye falls on these words:—

Commit thy ways unto the Lord; trust also in him, and he shall bring it to pass. And he shall bring forth thy righteousness as the light, and thy judgment as the noonday.—Ps. 37:5, 6.

"Wonder of wonders! how did I ever happen to strike on this?" you think. Is not that a most glorious promise, my friends? I have been reading it over and over, for the past week. With these words of hope and courage ringing in your ears, you open at another place, and read,—

For he shall give his angels charge over thee, to keep thee in all thy ways. They shall bear thee up in their hands, lest thou dash thy foot against a stone.—Ps. 91:11, 12.

Here we have a promise that God will even guard his children from making mistakes and blunders. Why, had you started off as you were going to do, in anger, you would most surely have "cast your foot against a stone." Blessed be the name of the Lord! Here is one more verse:—

Because he hath set his love upon me, therefore will I deliver him; I will set him on high, because he hath known my name.—IBID. v. 16.

You see, my friends, that all these great promises are just because we have known the name of the Lord, and chosen him for our refuge in times of trouble.

The question comes up sometimes, "How long shall we wait to have these things right themselves, or to have God right them?" Joseph waited in prison two years. Very likely they were as profitable years as any he ever spent; but I am pretty sure they were slow, wearisome years to him. I wonder if he ever felt like complaining that his lot should be so hard, for simply trying to do right. Shall we never take any pains to correct false reports that are started against us? There may be circumstances where it would be well for us to take some pains in such a matter; but as the tendency is almost always to try to set the matter right ourselves, instead of letting God do it, I would urge going along in the path of duty, and paying no attention to it. Suppose, for instance, you do go all over town, and follow it from one person to another.

In a little time it will be noised about what you are doing, and the very fact of one's running about to bolster up his character or reputation is in itself damaging. If you stick to your legitimate occupation, and half do your duty, your reputation will take care of itself. Let it alone; see that you are at all times behaving yourself in a proper manner, and are never seen in the company of only good, respectable people, and you will have all the credit you deserve, in a "twinkling," I might almost say.

Now, a word or two about trying to defend yourself before the public—on the streets, for instance; or, if you choose, trying to defend the cause of religion on the street-corners. If anybody should ask you if the reports are true, by all means tell them they are not; but if they should seem inclined to argue the case, or to doubt your simple statements, let them have it their own way. One who is honest does not need to affirm he is so, by adjectives or loud talking; not but that an honest person may be entrapped into argument and loud talking, but that if he does get so entrapped, he weakens his cause. I certainly should know how strong the temptation is to say just one more word, or to explain just a little, for I have sometimes thought it would be almost more than I could endure, to leave a thing right there; but after an hour has passed, I have been astonished to discover there was really no more that needed saying, and felt very glad I had conquered the temptation to go on. I once listened to a most excellent sermon, and one that I could not help but feel was urgently needed, although it cut extremely close in many directions. As the minister passed out, one of the congregation began censuring him in regard to the discourse. A mild reply was given; but the displeased party was in no mood to accept mildness; and, as he was not a Christian, every reply of any kind seemed only to make him the more unreasonable, until we had the spectacle of the minister and an infidel discussing in what might almost be called a loud manner on the streets as they passed home from church. I could not but feel that it was unwise, and I prayed hard that our pastor might have grace given him to stop. He did; but, if I am correct, he told me afterward that it seemed every time as if just one word more *must* make it all plain, in a way that would end the matter. But I have sometimes wondered if that were not one of the subterfuges of Satan, to lead us on into his toils.

It occurs to me just now, that the letter at the head of our talk to-day was written for my own private benefit, and not for publication; but, knowing how gladly this friend would do anything to help you all, I have taken the liberty to use it, and have put on the signature, "A.," myself, that I might be able to refer to it afterward. Now, please notice the thought she gives us, of accepting persecution as a blessing, instead of trying to defend one's self. Preposterous! the natural human heart would say; who ever heard of such a doctrine? Come to think of it, it seems to me I *have* seen something in some old book, a little like this:—

Blessed are ye, when men shall persecute you, and shall say all manner of evil against you falsely, for my sake.—MATT. V. 11.

Again as I read over these words, comes up as it has come up hundreds of times before, "Lord, help!" and I am prone to say, in the language of poor Peter, "Lord, save, or I perish."

Am I not making a little progress, friend "A."? If you have followed our bee journals for years past, you will perhaps recall some of the troubles that have from time to time come up. Many of the friends who were once so hard (as it seemed to me, remember), and who spoke so severely in regard to these same Home Papers, have now become friends; and quite a number have written kind letters, recalling their former expressions. Some of them I have met personally, and I have been astonished as well as delighted to find that we really had a pleasant visit together. Truly,—

When a man's ways please the Lord, he maketh even his enemies to be at peace with him.—PROV. 16:7.

Charles S. Robinson says, in the *Sunday-School Times* of Oct. 30:—

Some persons appear to be trying all their lives to keep the rest of mankind from infringing their private patents, trespassing upon their possessions, pilfering their copyrights, or diminishing their dignity. Their language is apt to run in this way: "The world owes me a living, and a living I must have; such a thing I will not do, such another thing I will not do, for anybody; I have my rights, my privileges, my pre-eminence; I never agreed to do this, nobody has any claim on me to do that." So the scores of men "born tired" are finding occupation in resisting imaginary encroachments, and claiming sympathy because they can not get their due appreciation.

Again,—

In the congregations of various churches there are many men and women who demand and claim and demand again. They want to be visited, to be sought, often to be coddled and flattered, and receive unintermitting attention, as the years pass on. They assert prerogatives without number. Over against these, we find earnest workers who go in for exploits, and abandon everything which lies in the way of success for Christ and the covenant. A fine, high self-forgetfulness characterizes their entire Christian life. By and by they are at the very front, but even of this they do not seem conscious. A grateful church recognizes its reliable helpers, and summons them into prominence.

Once more.—

Mr Moody said once in the Hippodrome: "This world will always go for the best wherever it can find it; all you have to do, therefore, is to make yours the best, and it will surely go for you."

Now, boys, where shall we take our stand in the business of life? Are we all ready for the battle? Hurrah! here comes some more strong helpful words from our friend "A."

When Christ was accused, he opened not his mouth. Think what he bore, and of that silence, and compare it with our feelings and actions when unjustly treated. It seems so weak and foolish, to me, for a human creature to clamor for his rights, and for justice. Go out alone under the stars, and, if you watch them long enough, you will feel the insignificance of what concerns only yourself, and you will not want to reply. You have one Friend who is never unkind. Never mind the rest, or what they think of you. He looks at the heart and knows the truth. "A."

Brocton, N. Y.

May God bless you for these words, friend A." They often sound strangely to us, and sometimes we feel like questioning whether such a course is really the best one; but yet, away back in that old book we read,—

But I say unto you, That ye resist not evil; but whosoever shall smite thee on thy right cheek, turn to him the other also.—MATT. 5:39.

Here is something from a brother-worker away across the seas:—

LETTER FROM INDIA.

Dear Bro. Root:—Your letter, with its substantial token of interest, came to hand last week, as "a sacrifice acceptable, well pleasing to God." You have cheered us in other ways, too, for the monthly visits of GLEANINGS with its Home talks has often rejoiced and comforted our hearts. We rejoice in your prosperity, and in your efforts to unite business and service to the Master, and in your endeavors to lift men to a higher plane of life in business affairs. I think that your success is the seal of God's approval. You have an interest in our prayers, and we trust that you will continue to walk in company with Christ, and thus become more and more useful.

As you will see by the date of this letter, we are at our mountain home. The rains begin soon, when we expect to return to Ellichpur. Here we find plenty to do, and are able to pursue the study of the language. God has not left us without tests of faith in many directions; but this, you know, is more precious than gold or silver. Out of every fiery trial there have come precious lessons, and for these we praise God. Our work, on the whole, is encouraging. Perhaps an idea of how we work will not be uninteresting.

Our native helpers are true, earnest Christians, and are a great help to us. They are about 25 years of age. Abraham was a Mohammedan, and was converted six years ago. His father was wealthy, but Abraham gave up every thing for Christ. He has been greatly persecuted. A year after he was married to Sarah, he went to see his people, thinking that perhaps his people had become reconciled to his being a Christian. But they imprisoned him—tried in every way to make him deny Christ, and to marry another wife. Abuse and threats and promises were used in vain; and it was only through the agency of English officers that he was released. Sarah is a Hindoo, which means an idolater, as all Hindoos are idolaters. She was converted when a child. She had been married, but all her husband wanted was twenty rupees for wedding expenses, which were given him, and he gave her up. They have both seen trial, and this has fitted them for the work. They are very earnest, and bear with patience and quietness all the abuse and insults which at times are heaped upon them, rejoicing that they are counted worthy to suffer for Christ's sake. They both read, write, and speak Marathi perfectly, while they only speak Hindoostani. They sing very nicely both native and English tunes. In the early morning they take their Marathi Bible and hymn-book, and make their way to one of the ten villages adjacent to Ellichpur (which, with Ellichpur, comprises as yet our field, in number about 50,000 souls.) They make their way to a central part of the village, and begin singing. The people are fond of singing, and soon a crowd gathers about them. They sing for fifteen or twenty minutes, and then Abraham will

read a chapter, or part of a chapter, and explain it, dwelling upon some simple but important truth, trying to make it plain to the *dark, DARK* minds, and hearts before him. When he is through, Sarah will take up some additional thought in the same chapter and explain it. In this way about an hour is spent, according as the people seem willing to listen. Not unfrequently, the priest of the village idol makes a disturbance, and tries to dissuade the people from listening. If they lose faith in the idol, then his lazy occupation is gone. About 9 A.M., Abraham and Sarah return to the "bungalow," often bringing with them some of the village people for medicine. The immoral lives of the people are productive of every form of disease. During the day, Abraham and Sarah are in constant contact with the people, and invite them into their little house, where they sing and read and preach to them. Toward evening, Abraham goes into the marketplace (*bazaar*, as it is called in India), and preaches, and sells tracts. Sarah makes her way into some of the homes in the bazaar, wherever she can get in, and preaches Christ to the women. She has a real tact for getting at them. My work is to give medicine for two hours in the morning; preaching Christ as opportunity offers, and to talk with individual ones (we live close to the bazaar, and are in constant contact with the people), preaching once or twice a week in Hindoostani, and once a week in English, the care of the work, and *study*. So, you see I need not be idle. Mrs. S. visits with Abraham and Sarah in the villages, and among the women in the bazaar; has charge of an English Sunday-school; is house-keeper, and keeps up the study of the language, and assists in the care of the orphan children. Miss Frow's work is with the six orphan girls. Her health is very poor, and she is able to accomplish but little. We hope that she is soon to be better. In the evening, we gather together and talk over the day's work, sing and pray, and plan the campaign for the next day. This is our work, day after day, against the hosts of Satan. We are *few*; our foes are many; but, blessed be God, the battle is not to the strong nor the race to the swift, and, shutting out all doubt, we set our faces like a flint toward Christ, resting upon the *promises* alone. We do not feel discouraged. We are just beginning to use the language to advantage. There are several who have expressed a desire to become Christians, and we are keeping them on trial, that we may know that their desire is genuine. Treachery and deceit are the nature of the East Indian, and it is only the grace of God that is able to transform them.

When I brought our six little girls home, they were the greatest thieves and liars you ever saw, even with *your* experience. They would steal every thing that they could appropriate, especially eatables, and then they would deny every thing so coolly! They also quarreled incessantly. But now we can leave any thing within their reach, and *know* that it is safe. If they thoughtlessly tell a lie, they are quick to come and confess it. If they wrong another, they ask forgiveness. They are as changed as light from darkness. What has wrought it? They have been taught the gospel! They have learned to love and fear the God of the gospel; they grieve if they do contrary to what the gospel teaches them is right; and I tell you, brother Root, the work wrought in these little heathen girls is sufficient answer to all the rhetoric of a thousand Bob Ingersolls. I wonder what the result would have

been if we had tried Ingersollism upon them! Oh! how can we be so blind to the glorious gospel of Jesus Christ? It alone is "the power of God unto salvation to every one that believeth." It is a blessed work to rescue even *six* immortal souls from the darkness and sin of heathenism.

While I write, they are reading their morning lesson, and read readily in words of two and three syllables. You will wonder, perhaps, how we bring these girls up, and how the life of a native Christian differs from that of the people about them. The great mass of the people live in little houses about 12 feet square—mud walls, and a thatched roof of grass. There is only one room; no chairs, tables, stools, stove, nor beds; no knives nor forks nor spoons. In one corner are two little places for cooking—little arches like, and two or three earthen dishes, and one or two brass dishes. The woman cooks the food. When it is ready, the man eats from the dishes in which it was cooked, using his fingers for knife, fork, and spoon. After he is through, the woman eats in the same manner. Their bedding is simply a blanket, spread upon the ground in warm weather, out of doors; during the wet and cool months, indoors. They *always* sleep with their *heads covered*. I suppose this is to protect themselves from poisonous snakes. In the morning they shake out their blanket, fold it up, and take it into the house. I am often reminded of Christ saying to the palsied man, "Arise, take up thy bed, and go unto thine house." In America, such a command would seem ridiculous; but here, it is the custom of all the people, every morning, and seems *perfectly* natural that Christ should give just such a command. All the parables of Christ are more easily understood in this far eastern land.

But I have wandered. Back of every bungalow (a bungalow is a large house for Europeans) is a building about one hundred feet long and 12 feet wide, divided into about 10 houses, for the servants of the people who live in the bungalow, for these English officers often keep as many as ten servants. Caste obliges every one to cook his own food, for often there will be as many castes as there are servants. Well, Abraham and Sarah never eat with us, but live out in the servants' houses, and maintain the simple customs of their country, eating with their fingers and sleeping on the ground. Of course they eat together, for Christ in the heart ennobles woman, and she becomes an immortal soul, equal with her husband, for whom Christ has died. The heathen idea is, that they are only animals. When they come into our bungalow they always sit on the floor, as a chair seems so awkward to them. Thus they are one with their own people in the simplicity of their habits; but in purity of heart and of life, they are as far removed as the east is from the west—as light from darkness, as heaven from hell. How the religion of the Lord Jesus is adapted for every clime, and for all people! Abraham and Sarah are very neat and clean, and their little home is a model of cleanliness and order. The children live in the same way, cooking in one of the servants' houses, eating with their fingers and sleeping on the floor of the veranda. They are taught to sew, and to be useful in doing the work in the bungalow. Thus we are trying to do the work which we are sure God has called us to do. Although not under a "board," we are in entire sympathy with their work, and we have the cordial Gospels of many of the dear brethren of the board. Ours is a large and

neglected field. There must be the sowing-time, or the harvest will never be gathered. "How then shall they call on him in whom they have not believed? And how shall they believe in him of whom they have not heard? And how shall they hear without a preacher?" *Two hundred thousand souls* around us who have never heard that a Redeemer has come into the world! souls living in the very depths of degradation and sin! Again, God bless you, brother Root, for your gift to this work. "It is more blessed to give than to receive."

Sincerely, J. W. SIBLEY.

Chikalda, East Berar, India, May 25, 1880.

In reading the 3d to 7th line inclusive, page 263, right-hand column, June No., I could not help but think of what you said in *Our Homes*, May No., page 239, in regard to the housebreaker. The words are: "At present, perhaps the best thing we can do with the one who breaks into our house while we are asleep is to shoot him down."

"O ye of little faith! not only in God, but," etc. Is not God able to protect us as well in the one case as in the other? Does not the Book of books say, "Thou shalt not kill"? Did not our Savior say to the soldier, "Go thy way, and do violence to no man"? and did he also not rebuke the apostle for drawing his weapon? I do not intend this as fault-finding. I think the moral parts of the New Testament are grand and good and practical.

Sterling, Ill., June 4, 1880.

J. SYKES WILSON.

Well, I declare, friend W.! Is it not a little singular to find a man who advocates non-resistance, and who is still a skeptic? You know I said, *perhaps* it was the best way; and you know, too, how much I dislike the use of "shooting-irons" of any kind. Will you please tell us briefly how to get along with a housebreaker when we wake up in the night and find him with his hand in the pocket of our trousers that lie on the floor? What is the Christian thing to do?—any one.

Reading so much about praying, in *GLEANINGS* lately, I would ask you for a few explanations about it. When you ask God for advice in your prayer, you seem to be always sure of having got the right answer of him, or, at least, instruction for the course which you thought best before your prayer. In consequence of your imagination, you put forth all your energies to accomplish it, but how can you tell that you got an answer or not from God? If you had not asked for advice of him and followed your reason and experience, and worked with the same energy to accomplish it, what do you think would be the difference in the end? Please explain in *GLEANINGS* for the benefit of some of its readers.

HENRY OTO.

Independence, Buchanan Co., Iowa, Nov. 6, '80.

If I understand you, friend O., you think the prayer was answered simply because my faith made me go to work with more energy than I had before I prayed. Now, suppose we say that praying simply gives us more energy, and nothing more; would it not, even then, be a good plan to pray? Would you not be glad to know that your boy was going to God in prayer, under such circumstances? Would it not be well if our nation of boys were all going to God in prayer for every thing they desire that is good and true and pure? In our lesson to-day, I showed you how prayer would hold one back when he has energy in the wrong direction. Let us suppose, if you please, that God answers prayer by simply giving us wisdom as to how to use our energies; will it not then be a good thing to pray? Was not that the way in which God directed Washington, so that, with only a handful of men full of energy,

he founded our country, in the face of fearful odds? I am sure you will join hands with me,—at least thus far, will you not, friend O.?

As several have inquired about those who have been mentioned in times past in our *Home Papers*, a few words in regard to them may not be amiss. The following is a single paragraph from Mrs. G. B., the insane woman, written to her friend Mrs. Axtell:—

O dear sister! join me in thanking God and my kind friends, that I am ever and ever so much better; my head is almost right now, and I feel very much like myself, and very happy and thankful too. I do all my work, except washing and ironing (with my husband's help). MRS. G. B. Oct. 25, 1880.

You see that those who put their trust in him are not forgotten. We may have to wait a season, as did Joseph in prison; but if we go to him he will always give us grace to bear our crosses until the time shall have come for deliverance.

I read your articles in *GLEANINGS* with interest, still being favored with the magazine through the kindness of yourself or another friend, I am not certain which. I wish you all success in your noble work. May God bless you, and give you courage to continue. S. G. MCFARLAND.

Bangkok, Siam, June 28, 1880.

Thanks for kind words, friend M. As this makes the third communication we have from missionaries, in this number, I think we shall have to start a missionary department next year; and if we do nothing more, we may be able to hunt up all the varieties of honey-bees that exist on the face of the earth. Honey-bees and civilization! Who will help? *GLEANINGS* goes free to all foreign missionaries, friend McFarland.

The following is from C. B. T., who sent us the poem last month:—

My brother is converted, and we are happy! I wish you could tell us what time during the month you write the *Home Papers*, that we may pray for a special blessing upon you at that time. C. B. T.

Give God the praise, friend T. May he bless you too, friend T., for your suggestion. I have often felt that I should like the prayers and sympathy of those who read these pages. I usually write them about from the 15th to the 20th.

My friends, this is the last number of the year: and, without question, quite a number of you will drop from our ranks, and you and I shall know each other no more. I should be glad to have you continue with us, it is true; but, my friends, I should be far happier to know that you have decided to have Jesus with you, and to make him a partner in all your joys and trials through life. Do not look to me nor any other human counselor for guidance, but take your Bible for your guide, and, on bended knee, promise your God that he shall be first and foremost, and above all, and you shall not only have joy and peace through this life, but eternal life in the world to come. It is just such a choice that has made our friend M. the new man that he now is—a faithful member of one of our churches, and a zealous worker in trying to bring other souls to the Savior he has himself found. Will you not, my friends, go and do likewise? May peace and God's blessing rest with you all!

Those of you who have read the life of Muller may have remarked how singular it seems to hear him every now and then speak of the number of Bibles and Testaments he has sold or given away. He seems to do it with a sort of exultation that a business man feels when speaking of the amount of goods he has sold in a single year, without making any bad debts. I have many times thought of the matter in our own land; but the trouble is, that every household contains one or more Bibles already, or, at least, so far as I know them. A few days ago I saw a very pretty little Testament offered for sale by the American Bible Society, for only 5 cents, and it occurred to me that, if they could sell them for so small an amount, why might I not? I wrote for terms, and also for the cheapest Bibles. A very pretty Bible is made for 25c, but the only discount they can give to anybody is 10 per cent. At this rate, the Testaments would cost me 44c, and the Bibles 22½, and the freight has to be paid from New York to Medina besides. My friends, the books are here, and almost every time I go down into the counter store, Eliza has the good news for me that another Bible or Testament has been sold. I make on each Testament, clear of freight, ⅔ of one cent, and on each Bible, 1⅓ of one cent.



SEEK YE FIRST THE KINGDOM OF GOD AND HIS RIGHTEOUSNESS, AND ALL THESE THINGS SHALL BE ADDED UNTO YOU.—*Matt. 6: 33.*

My friends, the above is the picture which is to grace the first page of our little book, "Our Homes." The idea I have tried to convey in the picture is, that no home can be such a home as God designed we should have on this earth of ours, unless the Holy Bible be the sun, or shining light, that presides over it. In the picture, a young man, or young evangelist, if you please, or a member of the Young Men's Christian Association, approaches a pretty home, and as the different members of the family come out to see what he has to offer them, he presents to their attention a new book. The new book may be supposed to be a copy of these same Home Papers, if you choose, or at any rate it is a book exhorting all mankind to look

up to God, and to consider the question of our responsibility we owe to him for these immortal souls he has given us. The boy is probably a neighbor, for he seems acquainted, and even the little girl looks up at him with the confidence she would have in some intimate acquaintance. As he points to the rising sun, we see a church and schoolhouse in the distance; also a fertile valley, and some fields of grain. The thought we would convey by this is, that the Bible, wherever it goes, even into the remotest corner of the earth, is sure to carry civilization and industry with it, as well as good morals and Christianity. Wherever it goes, the land shall eventually "flow with milk and honey." May God help us to speed it in its mission.

INDEX TO VOLUME VIII.

Apiary—

Advantages of hilly or mountainous district, 18; picture of our a., 33; Harrington's house a., 79; how to stock an a., 113; a tasty a., 125; laying out an apiary, 125; starting an a. on \$2.50, 222; house apiaries discarded, 358; thieves in the a., 359, 450, 485; work in the a. in August, 369; Allen's lawn-hive a., 373; Jones' a., 389; Martin's a., 425; are large a. a nuisance? 426; Gallup's a., 427; Buchanan's, 438; a visit to Simpson's, 468; the Banner a., 514.

Absconding Swarms—

New swarms abs., 278, 339, 390; Lee's remarks, 381; not prevented by frs. of brood, 429, 486; mania for, 493.

Alsike Clover—

How to harvest, 71; foreign seeds in, 111; does not run out, 117; A. in New Hampshire, 129; does it pay? 174; not injured by frost, 203.

Alighting-Boards—

How Smith makes, 324; made of slate, 387.

Bees—

Advertising b. don't pay, 34; blessed b., 36; b. and cane-mills, 57; b. drinking at hives, 58; balling queens, 59; two swarms separating, 66; letting bees starve, 66; dead b. in front of hives, 71; frequent handling, 73, 166; do b. rob because of lack of stores? 76; shipping b. in winter, 76; robbing the neighbors' b., 76; strong stocks to get honey, 76; b. by the lb., 78; how to manage when robbing, 106; building up weak colonies, 111; suspended animation of b., 114; moving bees often, 118; raising b., and letting them run off, 119; towing b. to gather honey, 120; taking b. from a tree in January, 120; does confinement cause dysentery? 121; dark v. light Italians, 124; handling bees in winter, 125; why did they die? 128; blacks and hybrids, who wants them? 129; when and how to take b. out of cellar, 129; handling b. with rubber gloves, 130; how much do they pay? 130; managing by electricity, 131; handsome b., 162; cross b., 165, 385; do healthy b. void their feces? 165; water for, 8; b. and grapes, 12, 58, 63, 217; a big bumble-bee, 15, 233; will grapple in the fall prevent dwindling? 16; Italians v. blacks as robbers, 23, 76, 172, 529; advantage of being near, 24; what to do with a barrel of, 26; brimstoning, 26; houses, 26; alighting bushes and trees for, 26; an October swarm, 27; keeping without trouble, 28; will Italians predominate? 28; three to sixty in three years, 29; a small swarm from a heavy large one, 30; setting b. near a road, 31; getting b. that are to be brimstoned, 31, 71, 391, 595; letting b. starve, 32; will loss of sting kill b.? 32; united stocks quarrelling, 34; poisoning b., 34, 530; Muth's ideas of keeping b., 587; do bees pay on an average? 599; lt. b. and chaff hives, 589; a barrel of b., 590; drumming b. out, 590; is much brood profitable? 590; yellow b. from dark queens, 593; have b. ears? 596; b. do not open grapes, 596; dying suddenly, 598; can b. convert worker eggs to drones? 598; b. in Utah, 576; Chinese b., 580; two colonies in one chaff hive, 577; about from 1 to 41 in 2 seasons, 549, 569; in-and-in breeding, 573; when to begin raising, 574; caution in adding new b., 549; fixing early for winter, 582; queenless stocks that won't start cells, 170; on shares, 171, 539; when do b. eat most? 171; b. to look at, or for, honey, 173, 519; how many swarms for one apiary? 175; where did they come from? 220; albinos, 220; killing robbers on Sunday, 222; cutting a b. tree, 223; locating bees near barnyard, 224; hiring boys to tend b., 224; length of b. tongues, 225, 524; brimstoning b., 225; hunting b., 225; balling their own queen, 228; don't starve, 230; cultivation of in N. England, 231; uncertain property, 232; quills to brush b., 232, 238; selling b. and queens, 236; water for, 267, 277; my first attempt with, 269; how b. remove water from honey, 270; handling vs. disturbing b., 275; culture of b. in olden times, 275; dying in a cellar, 278; do b. get lazy in the tropics? 279; smoking b. with mullein, 280; smoke making b. angry,

282; how do they improve time? 285; tinkering b. to death, 284; where did b. come from? 285; active b., 286; b. voiding water on the wing, 307; in garrets, 311; when did the b. come to America? 311, 599; by the lb., 315, 368; finest swarm in Texas, 318; can b. strain water from new honey? 318; small eaters, 324; educating people in b. culture, 325; enlarging race by crossing, 327; giving new swarms the whole hive, 327; how bees lived in the ark, 330; do bees sleep? 335; b. that won't rear queens, 336; b. that know nothing, 337; notional b., 347; new swarm returning to old hive, 338; starving in June, 339, b. dying without queens, 340; unsealed brood for new swarm, 359; how to get b. into cages, 368; brushes to remove b., 376; swarms leaving after being hived, 378; pursuing b. under difficulties, 379; swarming and attacking their queen, 379; b. that won't start queen-cells, 380, 544; non-swarming, 380; hybrids vs. Italians for honey, 381; b. and fruit, 382, 390, 536, 540, 599; difference in working qualities, 384; importance of unsealed brood in a hive, 386; do blacks work on red clover? 388; wild b. in Texas, 389; by the lb. by express, 390; blacks earliest in morning, 413; Cyprian and Holy-Land, 413; b. in Arkansas, 421; the deadly and too-busy b., 426; A B C test of Italians, 431; b. that won't work, 434; queenless stocks crosser than others, 435; what to do with lb. of, after May 24th, 438; what to do with cross b., 440; to make b. of sugar, 440; b. that won't work in upper stories, 441; killing b. for their honey, 442; four-banded Italians, 442; hunting b. with compass, 442; 1-zy b., 444; appearing dead when chilled, 464; hunting b. in Texas, 468; the Arkansas b., 471; disturbing b. in winter, 478; blacks storing all the honey above, 478; Italians on red clover, 484; too much brood in a hive, 486; working colony with no hive, 487; making b. accept queen, 487; do b. steal eggs? 489; 22 days in the cell, 494; b. and confectioneries, 494; relative merit of Italians and blacks, 527, 533, 600; longevity of b., 534; how to rent, 534; why do b. pick and pull others? 537; starting nuclei, 537; four-banded, 539, b. and grape juice, 539; why did they swarm so much? 539; b. in the ear, 543; b. that need feeding in Nov., 545, 556; keeping b. for fun, 546; intemperance among b., 547; b. in Tennessee, 548; young b. playing, 549; difference between Cyp. and Holy-Land, 556; covering b. for winter, 556; are there black b. in Italy? 557, 581; when the b. first came to America, 585; Biblical view of b., 586.

DISEASES OF —

Dysentery in the fall, 24; dwindling, 22, 59, 284; first report of bee malady, 80; is spring dwindling a disease? 124; is dysentery a disease? 211; dysentery or confinement the cause of trouble, 259, 533; a new disease, 444; a disease in warm weather, 586.

Bee Feed—

Juice of sugar-cane for f., 30; brown sugar for winter f., 31; sorghum sate as a b. f., 105; maple sugar as a substitute for candy, 121; flour in liquid food, 167; to keep liquids from souring, 167; corn, 167; pea flour, 169; molasses, 176; flour candy in winter, 237; brown sugar, 237; sorghum bud for honey, 230; eggs, 233; liquid food in October, 535; maplesyrup, 590; how to feed honey outdoors, 599; oats for bees, 131.

Buckwheat—

B. in northern localities, 78; sometimes a failure, 125, 203; silviculture, 203.

Cages—

Detweiler's, 132; Peet's, 132, 494, 538, 577, 660; Harris', 154; Heine's, 168; mailing queens, 106, 169; all of wood 176; a hint in regard to, 271; combined ship, and intro. c., 449.

Candy—

Grape-sugar c. made with honey, 74; why does c. drop? 74; c. for bees, 127; Rau's report on grape sugar c., 108; putting c. into frames, 230; how to make, 241; brick c., 276; making grape-sugar c., 276; mixed with maple sugar, 278; lazy man's bee c., 286; pollen c., 382; c. for cages that require no

water, 427; c. and its effect on bees, 435; Viallon's c., 530; sugar c., 558; when to put in a frame of c., 589; maple-sugar c., 208, 232.

Chaff—

For packing, 11, 66, 284; leaves v. chaff, 77; c. packing for mild winters, 78; advantages of keeping it on late, 112; c. for keeping bees below mats, 159; corn-silk v. s. c., 172; c. as packing, 284; strong stocks v. c. cushions, 334; cotton-hulls v. c., 436.

Cheirograph

10, 82, 128, 132, 168, 234, 236, 284, 432, 434.

Comb—

C. building in spring, 72; fastening c. to separators, 75; fastening c. for trans., 130; what to do with empty, 229; furnishing built-out c., 275; utility of empty c., 320; full of dead bees, 338; broken-down, 368; drone c. for ex., 537; building c. on the way, 591; thick c. in trans., 596.

Departments—

Humbages and Swindles, 20, 81, 155, 212, 260, 317, 400, 452, 471, 521, 570; Smilery, 14, 64, 104; 161, 209, 265, 313, 475; Growlers, 21, 56, 103, 156, 210, 262, 345, 365, 449, 469, 533, 575; Ladies' Department, 21, 112, 156, 211, 258, 311, 578; Heads of Grain, each No.; Notes and Queries, each No.; Blasted Hopes, 36, 81, 210, 258, 313, 370, 419, 467, 550, 570; Box-Hive department, 36, 181; Obituary, 36, 161, 288, 370; Boys' Department, 157, 212, 323, 418, 470, 520, 576; Our Own Apiary, 159; Bee Botany, 259, 371, 423, 478, 520; Kind Words, 305, 461; Reports Encouraging, 518, 568; Bee Entomology, 528; Cartoons, 154, 245, 451, 558, 572.

Dividing—

A grand mistake in, 180; a boy's trials in d., 418.

Drones—

In worker comb, 11; age of d., 34, 131; d. in January, 123, 128; in February, 170; early, 173; how to kill, 285, 439, 488; d. wanted, 336; purity of d., 338; Dzierzon theory, 375; to get d. in fall, 451; d. meeting queen, 476; color of, 493.

Early-Amber Sugar-Cane—

As a bee feed, 57; how to sow seed of, 79; mills for, 104; yield per acre, 105; E. A. in Canada, 105; the Minnesota, 153; seed of, 182; yield in Mississippi, 391; report from South Carolina, 433; our report, 466; in N. W. Ohio, 535; syrup from E. A., 590; evaporating juice, 592; clarifying, 57.

Enemies of Bees—

Ants, 25, 329, 431, 486, 578; tochina fly, 58; mice, 74, 157, 163, 278; toads, 119, 390; cockroaches, 125, 230; dragon flies, 234; Braula, or It. b. louse, 264; ants of New Mexico, 272; king-birds, or bee-martins, 287; moth, 329, 435, 436, 494, 531, 581; bee-hawk, 372; beetles, 372; bombilus Mex., 372; asilus Missouriensis, 391, 482; mallophora bomb., 14, 482; stinging bug, 482; black fly, 490; bee horse, 528; raccoons, 535; skunks, 599.

Extractors and Extracting—

Ex. with vertical motion to crank, 29; ex. in Nov., 29; ex. all unsealed honey for winter, 31, how I invented my ex., 59; a home-made ex., 118; a 50c ex., 157; ex. near hive, 179; how Hutchinson ex. honey, 255; Horner's ex., 274; substitute for wire cloth in ex., 328; how many frs. in upper story for ex.? 331; ex. the wires, 338.

Feeders—

Another, 70; a cheap feeder, 131, 233; f. to slip under frames, 171; Parker's, 218; the best, 358; how to make, 584; a new water font, 592; Ledbetter's, 595; an improvement on covered Simps., 568.

Feeding Bees—

Grape-sugar bee-candy, 17; early-amber sugar-cane, 13; benefits of feeding during scarce forage, 23; f. a Sept. colony, 28; f. sugar to make honey, 32; f. in open air, 74, 513; feeding sorghum, 154; flour feeding in spring, 167; feeding honey in March, 174; objections to feeding flour, 174; f. in spring, 234; feeding ext. honey to get comb in secs., 399, 546, 557; feeding back soured honey, 493; when and how, 582; f. to make bees accept candy, 190; simple way of f. sugar, 222, 224.

Figwort—

Manner of raising, 34, 68, 69, 122, 131, 179, 264, 276, 463, 526; medicinal qualities of, 79; is f. a bad weed? 79; grown in boxes, 125; in March, 159; who introduced it? 236; f. in May, 265; germinating seeds of, 282; early and late f., 315; mistaken for weeds, 331, 339; in July, 367; planting an acre, 380; in Minnesota,

384; in Michigan, 412; transplanting, 484; in Arkansas, 532; a failure, 540; is it hard to eradicate? 595.

Foul Brood—

How exterminated in Utah, 322; salicylic acid for, 330; Kaye's notes about, 333; how to eradicate, 376; contracted in buying comb, 549.

Foreign Countries—

From Germany, 17; from Scotland, 22; from New Zealand, 120; from Cyprus, 215, 320, 391, 550; from Palestine, 268; from Assam, 580; from Hindoostan, 603.

Foundation—

F. for comb honey, 31; flat-bottomed f. not a success, 33; the new \$15 f. machine, 56; f. in sections, 59; cheaper f. mills, 60; Bourgmeyer's f. mill, 60; Glyven's f. machine, 61, 331, 358, 360, 361, 451; to make full sheets of f. with little wax, 77; wired frames for f., 78, 364; dipped f. v. rolled, 88; making f. at one dipping, 109; flat-bottomed f. starters, 121; f. machine with wooden rolls, 124; f. with square cells, 126, 152; Dunham's machine for making f., 152; f. for surplus boxes, 179; flat-bottomed f., 207; when shall we hang f. in hives? 223; progress of the f. business, 254; drone v. worker f. for starters, 281; when to hang f. in hive, 284; something new from Jones about f., 308; Cheshire's plan to hold f., 309, 387, 388; Faris f. machine, 312, 363, 441, 449, 453, 494, 582; porcelain plates for f., 327; f. for new swarms, 328; cutting f. starters on Sunday, 337; Harrison's machine, 361; new way of making, 364; putting f. into wired brood frames, 377; Dunham f., 379; drone f. for honey, 382; fastening f. into frames, 386; hardening plaster with alum, 389, 444; curling up, 435; keeping unused f., 442; Foster's dipping f., 486; different kinds of f., 540; dark f. for brood chamber, 550; plaster for f. plates, 600.

Frames—

Movable, vs. box hives, 74; carpeting to cover f., 75; in one piece, 117; what to do with odd-sized f., 119; uniform length of f., 129; short L. f. compared with others, 131; to transfer movable f., 221; tongs to lift, 222; which f. is the best? 363; other f. than L., 363; deep or shallow f. for warm climates, 374; worn oil-cloth to cover f., 387; of candy, 438; different kinds, 467; mats to cover f., 431.

Grape Sugar—

Cheapness of g. s. and sorghum, 105; g. s. that will kill bees, 118, 170; difference between g. s. and syrup, 124; g. s. that won't harden, 131; g. s. morally, 158; a humbug, 230; as a bee feed, 258; feeding g. s., 307; feeding g. s. outdoors, 334; oak, 415; g. s. for wintering, 442, 537, 548, 597; g. s. v. honey as a bee feed, 543, 545; Davenport g. s., 221.

Hives and Fixings—

Shipping-crates, color for, 21; size and shape of starters, 23; legs for, 24; roofs, 26, carpet to cover frames, 27; Scovell's uncaping-box, 28; successful decoy h., 29; chaff h. ahead for comb honey, 31; how near may h. be placed? 31; can h. be too warm? 31; how to contract ent. for winter, 31; to put on a tin roof, 33; snow on h., 35; Deanes simp. chaff h., 37; corn fodder around, 66; winter covering under cushions; and enameled sheets, 66; 8 or 10 frame, 69, 128-181; paste-board paper for roofing h., 74; wool for cushions, 78; packing chaff cushions, 79; what to do with box h. that are short of stores in winter, 80; cheap way to fix leaky roofs, 80; leaky covers, 110; chaff h., v. cellar wintering, 120; size of entrances, 122; triangular starters, 122; making water run from Simp. covers, 123; to prevent covers from leaking, 124, 209; queenless hives in spring, 126; plank, v. chaff h., 128; stencil plates for marking h., 129; shavings for packing, 129; chaff h., v. tenement, 159; patent h., 167, 170, 277, 330, 385, 434; honey-boards, why not needed, 169; alighting boards, one piece, 169; chaff h. and A B C scholars, 172; fastening starters, 174; painting inside, 175, 234, 271; odd-sized h., 182, 223; case for 1½ story, 207; questions about chaff h., 219; chaff h., 177, 181, 221; paint for h., 222, 319, 328, 340; separators of wire cloth, 224, 431; how to feed box h., 231; paper plates for h., 233, 277; box h. not always a success, 233; chaff h. of lath, 233; to get surplus from box h., 233; a h. of empty combs, 234; paper for h., 235; roofs for chaff h., 270; rinsing h. with salt water, 279; sloping entrances for chaff h., 281; a big h., 311; the golden h., 318; separators of wire, 326, 542; Mrs. Cotton's h., 328; use of division boards, 328; comb-holder on chaff h., 331; sheets of enameled cloth, 358; Simp. upper

story over box h., 374; how to see the inside of h., 379; changing old h., to L., 390; trans. clasp of wire, 391; Hasty's hive balance, 416; uniformity in h., 425; separators of strips of wood, 437; packing for winter on teneiment plan, 477; painting in cold weather, 494; the bucket h., 519; seps. of perforated tin, 536; omitting starters, 538; grapevines to shade h., 541; prepared paper for seps., 587; good report from chaff h., 600; Baker's division boards, 63.

Honey—

That pleased Queen Victoria, 19; combs of sealed h. for feeding, 29; red-clover, 30, 117, 390; dark h. and old bees, 31; will h. freeze? 33; advertising honey pays this year, 34; expensive, 73; sourwood, 75; now Kendig gets big crop of h., 76; h. of the South, 78; extracting unsealed h. for winter, 80; h. from the oak, 120; h. from goldenrod, 122; h. from black gum, 14; stealing, 167; adulterated comb h., 172; sending h. across the ocean, 178; melting candied h., 208; how used in Louisiana, 211; how to sell, 227; a flow that did not start brood-rearing, 229; smarting, 235; pails for, 236; novel package for surplus h., 283; wooden buckets for surplus h., 288; h. from corn and cotton, 314, 532; holly h., 328; fit for kings, 333; Florida and palmetto h., 339; basswood h., 391; to make h. in July, 420; profit on, 437; h. in August, 440; curing h. by sun's rays, 442; ext. v. comb h., 477; h. from smartweed, 484; hoarhound h., 489; are any seasons not profitable for h.? 530; diversity in price of, 546; medicinal qualities of h., 589; Doolittle's remarks about selling h., etc., 571.

Honey Dew—

Origin of, etc., 70, 218, 279, 437, 542; a cloud of, 75; from the oak, 79; from the beech, 74; from the clouds, 214; Cook's article, 266; in Denver, Col., 443.

Honey Plants—

Erica vulg., 17; scroph. vernalis, 17; sunflower, 18, 466; Lucerne, 35; purple thoroughwort, 58; blue thistle, 58, 108, 129, 130, 226, 232, 236, 267, 314, 378, 386, 466; white Dutch clover, 59, 169; cultivation of, 71; red raspberry, 77, 109; will seven-top turnip bloom the same season? 79, 173; California sage, 34, 371, 110, 178; hoarhound, 110; water-leaf, 58; rape, 157, 173, 235, 317, 490; alfalfa, 35, 178, 224, 371; clover seeds, 25; violets, 180; symp. vulgaris, 181; seven-top turnip, 208, 286; Paulowna Imperialis, 208; dandelion, 208; smartweed, 214; red-bud, 220, 287, 325, 550; radishes, 225, 329; h. p. of Virginia, 235; golden cluster raspberry, 236; h. p. of Colorado, 259; Italian or scarlet clover, 265; our basswood plantation, 265; locust, 265, 333, 371, 386, 492, 544; thistles not dangerous, 276; sourwood, 282, 328, 371, 386, 434; asparagus, 285, 387; sugar-corn, 285; Canada thistle, 287; saffron, 287; white clover not yielding honey, 313; weeds, 314; time of basswood bloom, 317; lippia nodiflora, 324, 424; Chinese-oil radish, 331; horse-mint, 335, 435, 493; red clover, 337; Spanish bayonet, 348, 375; buck-bush, 371; stone-crop, 371; buck-thorn, 371; soap plant, 371; chimesal, 371; verbena, 371; monardus aristata, 375; heartsease, 381, 481; button-bush, 381; Spanish needle, 389; cotton for honey, 389; sumac, 390, 435; melilot, bad for bees, 413; flax of New Zealand, 421; asclepius tuberosa, 423; Minnich's, 424; trumpet weed, 424; how to raise, 430; cotton, 435, 535, 570; pennyroyal, 443; good report from melilot, 440; propagating trees by layers, 441; goldenrod, 442; silverhull buck-wheat, 443, 453; blue lupine, 465; cornels, 465; basil, 465; gathering seeds, 473; basswood in Missouri, 475; giant hyssop, 478, 542; matrimony vine, 479; Indian plantain, 479; verbena hastata, 480; Indian hemp, or swamp milkweed, 480; Rocky mountain, 487, 520; acacia, 490; heliotrope, 493; bishop-weed, 520; evening primrose, 521; Mollie Heath, 541; Co-bea scandens, 542; whitewood, 548; pearl millet, 589; willow, 589; fruit-bloom, 600; clover that yields no honey, 33.

Introducing—

How I. Dec. 1st, 25; by especial methods, 25; i. cage for cold weather, 29; without ceremonies, 66; Keeney's cage for I., 73; I. at swarming time, 79; i. queens without a cage, 157; Doolittle's conclusions, 158; essential conditions for I., 163; I. by an A B C scholar, 327, 486; remarks about I., 329; a failure in, 382; I. with sweetened water, 432; King's plan for I., 437; I. by frequent smoking, 438; I. by caging a frame of brood, 439; I. quickly, 442; a hint from Dougan, 476; I. in 41 days, 486; a new plan, 488; i. under difficulties, 490; how the doctor and wife I., 524; i. virgin queens, 535.

Italianizing—

I. by cutting out drone brood, 131; I. in the fall, 411.

Lamp Nurseries—

Adams' opinion of, 231; Hayhurst's opinion of, 266.

Pollen—

Artificial, 68, 112; surplus, 71; not necessary for wintering, 82; pea flour for p., 110; straw smut as a substitute for p., 128; from milkweed, 329, 416.

Propolis—

To prevent p. from sticking to the fingers, 32; where p. comes from, 484, 533.

Queens—

Talking, 7; natural v. artificial, 11; rearing, 12; voices of, 7; balling, 19, 26, 225; friend Alley's, 25; when does she cease laying? 27; three remarkable ones, 27; how old may one be and become fertilized? 27, 546; a hybrid that grows pure as she grows older, 27; dead at entrance, 28; two in a hive, 30; workers from a q. that was wingless when hatched, 33; select q. raising, 68; queenlessness in cold weather, 71; do q. lay drone and worker eggs alternately? 73; q., how they differ, 75; can they feed themselves? 78; does it pay to raise? 79; can an imported q.'s daughter produce bees all black? 79; improvement in q., 115; double-q. stocks, 115; rearing select q., 116; long-lived q., 117; is Italian blood "catching"? 119; early q. from the South, 120; keeping extra q. in cages, 121; second generation from imported mothers, 123; q. eggs remaining dormant, 123, 123; Cyrenius on q.-rearing, 123; queer accident to a q., 127; can't be judged by looks, 131, 430; Hutchinson's way of raising, 151; by mail, 154, 174, 203; Snyder's red-clover q., 160; do q. go abroad to mate? 173; marking, 175; q. that keep laying daughters, 177, 227, 474; who wants black q.? 180; dead in front of hive, 208, 338, 381; black q. with yellow bees, 208; rearing q., Gallup's ideas, 213; quarter-blood, 216; the red-clover q., 35, 102, 115, 225, 264, 282, 337, 398; q. to California, 234; finding q. in stocks supposed to be queenless, 271; must q. meet drone, to produce eggs? 273; missing q., 285; retarded development of q., 285; how to import, 286; unfertile q. not marketable, 321; teeing before swarming, 331; q. filling cells full of eggs, 334; dollar queens, misnamed, 357; desirable points in q., 358; superiority of Cyprian q., 358; do imported q. produce hybrids or blacks? 358; rearing q. for market, 369; q. and bees, or honey? 372; non-laying q., 381; lying when intro., 383; to Colo. and Wash. Ter., 384; stray q. replacing old one, 387; q. meeting drone more than once, 391, 451; \$1.00 q., 392; q. that won't lay, 399; q. having cramp, 399; Cyprian and Holy-Land, 399; all not alike prolific, 401; q. eggs under microscope, 420; It. q. changing to blacks, 423; non-laying q. when of proper age, 437, 490; blacks balling the q., 438; don't haste to pinch, 438; resuscitating, 439; how soon do q. lay after journey? 442; taking wing, 443; lost in intro., 443; how old to lay? 443, 486; two in a hive, 443, 527, 582, 593; q. raised late in fall, 444; young q. fast in cell, 444; advice to breeders of q., 461; Jeffrey on q.-rearing, 474; judging q. by looks, 474; lost in mails, 474; are bees of pure q. alike? 474; how to tell queenlessness, 478; is balling dangerous? 483; dollar q. late in fall, 484, 567; to prevent flying when intro., 484; how late in life can q. be prolific? 486; Italian q. sometimes black, 487; q. fertilized twice, 4; eggs disappearing, 488; spurious, 489; two in a hive, 491, 493; what to do when a q. gets away, 492; clipping wings, 492; q. leaving hive and killing another, 526; hatching q. from drone eggs, 533; cost of importing Cyp. and Holy-Land q., 538; intro. unfertile q. several days old, 538; keeping q. a month or two, 539; large eggs, 539; a q. story, 543; 3200 eggs in 24 hours, 549; troubles of importing, 589; to find a black q., 590; Davis' transposition process, 594; eggs not hatching, 596; do q. mate with drones from their own hive? 600; Good's Holy-Land q., 569.

Queen-Cells—

From natural swarming, 173, 207; to get choice, 322, 362; trouble in getting, 329; inserting, 368; does it pay to raise queen-c., 369; position of, 390, 597; market value of, 390; natural, 391; when should be given? 415; how to repair those cut, 432; Townsend's plan for getting, 434; large number on one comb, 440; on drone comb, 477; selecting the best, 478; not always sign of queenlessness, 485, 525; several eggs in a q.-c. hatching, 485; great number from one colony, 488; grafted, 492; caging over cluster of bees, 594.

Reports, Various—

Hopes not blasted, 24; good r. from A B C scholars and others, 30, 32, 33, 74, 77, 122, 125, 171, 176, 177, 178, 212, 221, 224, 231, 287, 329, 332, 441, 492, 509, 589; hive full of honey and did not know it, 26; a good r. from blacks, 30; from two to twenty-five in one season, 31; a good r. for 1879, 32; troubles, 32; a big crop in Canada, 33; large yield from asters, 33; r. from Iowa, 34; our r. for 1879, 35; r. of an A B C scholar, 66; from eight to thirty, and 900 lbs. of honey, 74; good r. from hybrids, 79; hurrah for Texas! 109; from California, 114, 130, 161, 165, 178, 180, 267, 274, 422, 476, 533, 540; r. from Colorado, 120; Doolittle not in the shade, 162; from Langstroth, 179; from an A B C child, 226; Ballantine's r., 266, chapter from real life, 275; Good's good r., 278, 361, 524; Mayo's r. from Florida, 280; good r. from sorghum, 280; A B C scholars' mishaps, 282, 541; from Geo. Grimm, 310; r. from Maryland, 310; r. from Louisiana, 314, 374, 491; a barrel of honey from one swarm, 314; from boys, 323; r. from tenement hives, 334; a new scholar's troubles, 366; Hunt's report from Michigan, 379; good r. from Texas, 390; good r. from hybrids, 382; darkness and sunshine, 384; good r. from Tennessee, 391; L. C. Root's r. for 1880, 418; Duff's story, 426; good r. from buckwheat, 436, 442; a fish-bee story, 439; A B C scholar's first year, 447; r. about sunshine, 452; r. of 34 bee-keepers, 463; r. from Western Missouri, 475; Taylor's r., 478; Keeran's r., 481; great flow in Wisconsin, 482; a boy's report, 485; a sudden flow in Illinois, 490; Bingham's r. for 1880, 491; Ballantine's visit to Medina, 514; Wisconsin ahead, 515, 525; r. from "Neighbor H.," 515; Cincinnati convention, etc., 516; Doolittle's r. for 1880, 528; from an Iowa boy, 529; good r. from York State, 531; r. from Arkansas, 532; Nicholson's r., 545; from 1 to 41 in two seasons, 549; discouraging reports, 550; a beginner's ups and downs, 588; forty swarms from five, 591; Florida as a honey State, 593; Bussey's experience, 594; Hayhurst's r. on the Cyp. queen, 595; from Minnesota, 595; more honey than a man can lift, 595; Case's r. for 1880, 569; Quinn's r. for 1880, 569.

Robbing—

Wet cloths to stop r., 228; how to remove robbers, 226, 283; how to disgust robbers, 287; look out for r., 338; robbing neighbors' hives, 541.

Saws and Other Machinery—

Improvement in wabbling s., 29; Oldroyd's miter-box, 46; tools, 99, 256; Parker's fdn. fastener, 102, 547; cost of apparatus for sugar-making, 105; to wabble saws without collars, 124; saw mandrels, 124, 366; Adams' horse-power not a failure, 125; s. that are too hard, 130; Adams v. Childs horse-power, 269; mills and bees, 170; device to hold work, 209; to make a hand-ripper, 211; a scraper for the apiary, 279; planing saws, 283; tinners' shears, 283; tongs, 283; glass-cutters, 288; lilliputian planers, 311; hammocks, 339; tool-chests, 339; brains v. machinery, 376; implements for the apiary, 432; the Given dies, 434; wabbling s. for rabbits, 537; iron tanks for honey, 545; to make a foot-power saw, 600; an improvement in scales, 578.

Sections—

Vacant corners in, 23; Gray's machine for making, 64; one-piece, 131, 234, 255, 335; rack for prize s., 132; cheaper, 168; new way of making dovetailed s., 189; n row top-bars for s., 235; who invented the one-piece? 285; odd-sized, 340; the Forncrook patent, 365; keeping unfilled s. over, 380; sent as samples, 541; unglazed s., 549; entrances to s., 600.

Smokers—

Match-box for, 11; fuel for, 79, 335, 489, 547; improvements in by Bingham and Root, 108; Clark's cold-blast, 130; Bingham's, 131; paper for, 179; home-made, 180; still another improvement, 206; tan-bark for fuel, 282; another trouble with, 330; large-sized, 369; s. v. tobacco-pipes, 493.

Spider Plant—

Manner of raising, 34, 69, 131, 179, 526; not always a success, 73; tenderness of, 331; in Arkansas, 389; good yields from, 392; in July, 399; in Maine, 413; in different localities, 473; in Arkansas, 532; growing wild, 597.

Stings—

How Steele did not get stung, 67; stings shown by microscope, 235; s. and rheumatism, 441, 472, 533, 558, 541, 597, 600.

Swarming—

Why did they persist in? 16; choosing location before s., 31; natural v. artificial, 67; s' out in the spring, 129; how to decoy runaway swarms, 131, 475; first swarms going to the woods, 177; a swarm 80 feet high, 233; to make second swarms stay, 233; a swarm from a swarm 17 days old, 233; a non-swarm, 234; to prevent after-s., 280; prevented by shot-guns, 284; swarms coming home, 285, 443; many queens from nat. s., 327; to prevent s., 329; Oren's swarm-catcher, 332; retarded by giving room, 339; do boxes retard? 377; swarms going to woods, 428; mania for s., 433; to use the swarming-box, 441; a "swarming" flag, 483; from 1 to 20, by nat. s., 494; excessive s., 596.

Transferring—

Tr. in December, 78; tr. in fall, 127; turning combs in tr., 228; tr. early, 231; an A B C scholar's first tr., 287; tr. successfully the first time, 438; tr. under difficulties, 439; how an authoress succeeds in tr., 480; tr. in October, 594.

Ventilation—

V. for Simp. covers, 123; why they died, 24.

Wax—

Cleaning off w. with oil, 203; improvement in melting w., 207; knives to scrape w., 232; substitute for, 462.

Wintering

Cellar wintering, 23, 175, 326; unsealed stores for winter, 24; in a cellar, 27; winter passages, how to make permanent, 28; cellar w. in Iowa, 34; ducks' feathers for w., 72; w. on candy alone, 80, 178, 235, 592; oat hulls for w. packing, 80; how much does it take to winter b? 170, 281; hints on w., 226; timothy chaff for w., 235; Dadant's plan for w., 418; how the "A B C child" winters, 422; w. three cols in a chaff hive, 485; what to feed for w., 489; w. well without care, 548; w. in unprotected Simp. hive, 548; substitute for chaff hives in w., 584; w. under snow, 591; w. in a hill-side, 591; a new idea in, 579.

Workers—

W. in partnership, 433; how to get rid of fertile workers, 436.

Index to Contributors.

A., 135; A C W., 223; Abraham H. W., 287; Abraham C., 441, 524; Adams G. H., 231; Adair J. B., 383; A. H., 20; Akins J., 230; Alvis H. J., 483; Alpha, 187; Alley H., 14; Allen N. H., 373; Ambler S., 128; Annis G. D., 443; Anderson J. L., 419; Angell C. H., 282; And-rson A. W., 338; Andrews T. P., 389, 416; Arwine E. S., 232, 479, 486; Arter D. A., 285; Ashworth J. G., 116, 258; Atchley E. J., 305, 380, 431, 512, 518; Awrey H. A., 161; Axtell L. C., 113; Axtell S. J. W., 242, 490, 492, 555; Ayars T. Q., 439; Babcock G. H., 10; Baker D. B., 15, 76, 386, 431; Baker, G. W., 32; Barrow J. H., 33; Bason W. F., 72; Ballow B. C., 76, 172; Bagby E. A., 80; Ballard D. J., 112; Baird J., 117; Baker F., 130; Baker J., 173; Barbour E., 181; Bailey D., 566; Bacon D. W. C., 217; Bailey R. H., 233; Bailey Jr., L. H., 260; Ballantine W., 266, 513; Bartlett E. H., 277; Barber R. I., 281; Bailey G. B., 322; Butler F. A., 485; Baker H. J., 550; Bethune R. A., 471; Beard E., 32; Beal W. J., 14, 70, 371, 423, 424, 479, 480, 521; B-nnett I., 13; Betts L. W., 11; Bethune D. S., 30, 389, 550; Best D. E., 543; Bennett J. C., 74; Beech G. A., 86; Benton F., 215, 391, 550; Berg E., 225, 423, 432; Best L. A., 390, 443; Berry M., 400, 442; Bell F. J., 438; Bennett A. M., 534; Bemis L. E., 589; Bigler & Swallow, 119, 492; Bingham T. F., 176, 491, 494; Bitzer W., 265; Bingham C. R., 538; Binney B. S., 545; Blanchard O. C., 442; Blackburn A., 80, 313, 412; Blank A., 80; Blosser A. F., 330; Blosser S. H., 442; Bowen J. W., 599; Bowles C., 443; Boyd C. H., 440; Bosworth U. C., 339; Boston J. F., 287; Both B., 285, 319; Bowers L. B., 235; Bowen O. F., 176, 291, 292, 391; Bonham A. F., 86, 313; Boardman H. R., 60; Bowers J. L., 58; Bourgmeyer J., 61; Boucane L., 308; Bollinger P., 311; Bridges C., 376; Brogan J. B., 400; Bradley J. W., 518; Brickey, P., 522; Brown W. C., 544; Branson G., 548; Bryan A. W., 599; Brooks H. H., 67; Brown J. M., 340; Breece H. C., 120, 384, 495, 569; Brown J. S., 79; Brown H. H., 33, 459; Breneman H., 73, 484; Brooks J. M., 108, 228, 313, 332, 362, 373; Brilliant J. H., 271; Breleford C., 224; Brown D. C., 234; Bruce W. A., 493; Brumbaugh A. J., 235; Britton H. F., 279; Brandon J. P., 329; Bray I. B., 331; Bucklew J. A., 23; Bulter D. L., 23; Butler S. S., 438; Butler T. C.; Bushnell U., 104; Butler L. L., 179; Bunker C. V., 242, 441; Bugg J. L.,

330; Burroughs L. F. 333; Burke C. S. 333, 549; Butts C. H. 375; Burrage J. H. 391; Buchanan J. H. 437; Buchanan J. A. 438; Bussey J. 444, 594; Burton J. A. 548.

Carver D. 73; Carlin C. R. 78, 131; Carpenter J. 494; Canthen W. S. 117, 120, 499; Case J. B. 126, 153, 568; Cauthen H. F. 129, 222, 440, 492, 532; Callen M. M. 473; Cuss W. E. 130; Carroll B. F. 468, 474, 490, 494, 548; Carrington L. B. 167; Carter M. P. 488; Calder J. W. 168; Calkins J. S. 171; Case N. 212; Carpenter J. C. 477; Carrington E. C. 212; Caldwell J. L. 572; Call A. A. 332; Carr J. H. 401; Castelli G. 413; Caskey C. W. 494; Canfield C. W. 512; Carl D. S. 513; Cadwell E. 536; Case N. F. 539; Cam E. S. 564; Chapman J. 118, 442, 492; Childs J. 14, 21, 164; Chrystal W. 129; Church G. W. 168; Chambers L. 175; Chapman F. W. 279, 323, 390; Chace H. E. 588; Clement W. 157; Cline J. B. 70; Clardy B. F. 460; Clements J. A. 537; Clements H. 429; Clemm W. H. 121, 421; Clement W. P. 221; Clark N. 331; Claxton L. 338; Claxton W. 549; Cooper L. N. 553; Cortez A. 600; Cogswell W. W. 539; Cochran J. A. 566; Cottrill E. 569; Cooper T. W. 494; Collins J. 489; Cole B. 467; Colby L. T. 444; Collins A. S. 436; Cottrell N. E. 330, 353; Colton J. B. 370; Collins J. 329; Comings F. W. 158, 337, 599; Cogswill B. F. 105; Cogswell B. 77; Cook T. J. 28, 104, 124, 532; Cook A. J. 14, 38, 106, 164, 175, 243, 253, 266, 372, 481, 529; Cotton Mrs. 22 (see Humburgs); Coleman W. 32, 65, 518; Cooper J. D. 178; Copeland J. 226, 283, 332, 459; Cooper J. W. 270; Cole G. 282; Corey J. G. 371; Converse J. C. 439; Covill J. B. 494; Collins F. F. 549; Crane J. E. 391; Craycroft J. B. 319; Creighton J. H. 277, 433; Crilly T. 223; Craft J. H. 470; Crowfoot I. S. 4-9; Craycroft F. L. 576; Curtiss G. 341; Curtis C. B. 286, 431; Cyrenius F. H. 124.

Dawson J. 23, 115; Davidson T. L. 119, 126; Davison A. S. 127; D. B. 131; Davis A. J. 167; Day A. L. 181; Davenport D. B. 211; Davis T. C. 227; Davis H. A. 227, 231, 386; Davis W. P. 232; Darr J. 233; Davidson C. S. 234; Davis O. S. 267, 324, 424, 476; Day G. 279; Dadant C. 363, 581; Dalzell A. W. 529, 541; Dean G. B. 80; Deane C. H. 8, 45, 234; Demorest H. F. 439; De maree G. W. 61, 131, 285, 332, 337, 478, 542; Della Torre F. 231, 310, 390, 444; Deitzel T. C. 255; Dean J. E. 387, 453; Detwiler J. 388; Denison C. A. 389; Dewey J. S. 423, 434, 566; Dean O. F. 452; Deming M. L. 539; Dickinson O. L. 443; Dickson H. 452; Dillon G. W. 593; Dollar S. 81; Doolittle G. M. 137, 159, 162, 259, 261, 316, 320, 359, 415, 429, 528, 571; Downs R. 411; Dugan W. M. 476; Drane C. C. 536; Dubois M. D. 335; Duff A. F. 129, 181, 247, 427, 600; Duff A. N. 32; Duhman E. 153; Divali C. D. 157; Duncan T. H. 329, 441; Duntan A. F. 335; Dyke W. 180, 528.

Earl S. C. 57; Eastman M. F. 130; Easterday E. S. 180, 423; Eastman H. T. 401; Ebell G. 81, 473; Eddy J. H. 228, 435; E. B. H. 333; Eckman J. W. 100; Edmonston, D. G. 537; E. H. M. 340; Edridge J. H. 327; Ellis J. R. 263, 286; Elliott J. 10, 211, 378; Ellis C. B. 591; Ellison W. J. 179; Ellwood W. 549; Elliott T. J. 559; Emerick W. 24, 589; E. M. G. 21; England P. J. 245; Etrican A. L. 357, 382; Eoff J. R. 222; Eatey E. 64; Evans H. 325.

Farris J. 180, 254, 364, 582; Faville C. 258, 319; Fay M. M. 276; Ferris S. 258; Fitz Hugh, Jr. N. R. H. 71, 452; Finch B. 32; Fitzgerald J. G. 104; Fite J. T. 600; Flint F. 382; Flanagan E. T. 258, 285; Flansburgh G. J. 163, 170, 175, 177; Fletcher A. P. 69, 155, 443, 521; Fleischer D. W. 31, 69, 179; Flournoy O. R. 24; Folts W. 128, 235; Forman G. H. 124; Foster O. 109, 206, 225, 486, 535; Foshee J. D. 104, 433, 490; Forrest R. 77; Fotheringham J. 33; Foster A. G. 175, 420; Foster W. L. 189; Fontaine W. S. 222; Forest W. C. 381; Fox S. C. 460, 535; Fontaine W. L. 470; Fox H. H. 473, 488; Fradenburg A. A. 22, 26, 125, 226, 326, 370, 330, 475, 494, 530; France E. 583; Friend, 43; Frederick W. H. 450.

Garfield S. H. 16; Gallup E. 63, 111, 114, 161, 164, 213, 224, 274, 427; Gastman E. A. 313; G. A. R. 366; G. B. 136, 241, 605; Goff G. 596; Griggs W. E. 512; Greiner F. 550; Gibbons D. F. 438; Gilchrist J. N. 8; Gill M. A. 11, 58, 113, 324, 484, 534; Given D. S. 61, 348; Gillis D. C. 663; Gillis A. W. 234; Gilmore J. M. 377; Gilfillan J. C. 663; Glidden F. M. 433; Goodale. 430; Good I. R. 165, 278, 361, 494, 524, 564; Goewey J. B. 134, 460; Gordon W. L. 128, 269; Goewey D. M. 71; Goodhue G. O. 78; Grabill A. 487; Graves J. B. 391; Graham F. 36; Granger E. 30; Gravenhorst C. T. H. 17; Greig R. M. 22; Gruff G. S. 73; Griswold A. D. 80; Greenwood J. K. 131; Greiner Bros. 166, 209, 331; Graves J. B. 214, 224; Griffith H. L. 277; Gray J. H. 279; Grimm G. 310, 519; Gregg W. A. 334; Greenleaf J. C. 337; Gray L. D. 377; Green L. H. 333; Green T. R. 390; Greely A. 420; Greenaway E. 423; Green J. A. 442, 485; Gregory J. K. 512.

Hammond J. E. 233; Harris W. A. 235; Hayhurst E. M. 296, 390, 595; Harris L. E. 314; Hall H. 337; Hart W. S. 339, 593; Hammond H. 379; Harrison J. 389; Hart W. S. 442; Hall D. B. 480; Hall R. 494; Havelly W. C. 521;

Hammond J. E. 536; Haight C. J. 596; Harey G. N. 566; Harper T. J. 570; Hasty E. E. 19, 164, 267, 416, 465; Hall S. W. 23, 32; Harris J. 50, 432; Hall W. P. 30, 258; Hakes M. G. 34, 74, 473; Hambly D. F. C. 58, 598; Hallett T. 75; Harrington M. W. 79; Hardin J. R. 117; Hale E. W. 130; Harris J. L. 154; Harrison A. A. 156, 590; Harris M. J. 162; Hains J. B. 172; Harvey M. M. 18; Harrison L. 180, 420, 475; Harriman H. A. 210, 219, 460; Harker C. 219; Hawker J. B. 227; H. C. N. 593; Heath S. 33; Heilmann A. F. 128; HERNANCE J. H. 131; Henry C. E. 160; Heine L. 163; Hearn W. T. 170, 209; Hepp J. F. 209; Hesmner J. 275; Henderson W. P. 276; Heath H. D. 318; Heddon J. 361, 434; Hildeman E. S. 71; Hill S. 31, 441; Hills A. M. 29; Higdon W. D. 31; Hickok S. H. 237; Hinstaw E. J. 285, 339; Hill J. M. 442; Hitt H. W. 568; Holsinger T. S. 550; Howell E. D. 535; Howland M. 481; Howard W. C. 476; Hodson A. B. 453; Howler A. 444; Hoyt W. 443; Hoyt C. H. 600; Hooser T. 400; Holstatter A. 178; Hoover A. J. 170; Holtke F. 137, 365, 493; Hug O. A. 131, 371; Howard J. 131; Hoyt M. 30; Holloway J. P. 81; Hollenich G. L. 76, 350, 546; Hobbs M. T. 28, 479; Hough S. H. 592; House W. B. 45, 512; H. P. Kins J. A. 575; Hooper G. H. B. 58; Horner W. K. 75; Howard G. P. 284; Hoff C. D. 493; Hostouer S. K. 493; H. Neighbor, 515; H. N. B. 241; H. S. 56; Hutchinson W. Z. 7, 55, 99, 151, 204, 255, 267, 359, 411, 432, 463, 512, 513, 514, 567; Hunt M. H. 125, 379, 499; Hughes I. S. 209; Hulme F. W. 212; Hunter T. H. 494; Hubbard N. 495; Hughes J. S. 339; Hunt E. 578; Hyde W. L. 36; Hyatt O. H. 599.

Abbottson C. 44; Inergens H. 383; Ingram J. P. 494; Irish W. P. 68, 412; Isbell M. 494, 549; Isham C. R. 19, 161.

Jackel J. 129, 181, 233, 234, 372; Jacobs J. A. 155; Jarret J. E. 229, 419; J. A. N. 336; James P. 370; Jackson T. S. 370; Jacobs B. F. 381; Jackson A. 492; J. D. D. 498; Jeffrey H. L. 116, 391, 443, 474; Jewell J. E. 460; Jeffrey F. M. 484; Jones W. B. 460; Jones A. 397; Jones D. A. 263, 308, 337, 384, 448; Jones L. S. 224, 594; Jones G. W. 103; Joy W. A. 229; Johnson H. C. 179; Job V. 227; Johnson J. W. 127; Johnson C. D. 564; Johnson J. E. 371; Johnson C. A. 437, 452; Johnson R. P. 473; Juergens F. 285.

Kaye A. W. 68, 175, 333, 337; Kauffman J. 80; Keeran J. W. 592; Kelton D. H. 599; Keary S. 549; Kellogg W. M. 439, 467, 468, 472; Keeney V. W. 168, 260, 489, 522; Keeney M. G. 29, 73; Kellogg E. M. 28; Kendel A. C. 55, 111, 169, 493, 600; Kellogg G. M. 43, 241; Kendig C. 77, 400; Keeran J. W. 481; Keutch J. 494; Kirk D. 576; Kise A. B. 557; Kinade C. H. 555; Kingsley C. E. 571; King H. J. 173; King W. L. 178, 457, 449; Kinsey W. E. 234; King J. S. 400, 444; Kinnear J. 443; Killam E. J. 512, 541; King C. T. 580; King C. D. 580; Klar A. L. 75, 81, 518, 597; Kline P. J. 389, 390; Kleinow O. 412, 548; Kium M. S. 411; Kuapp E. H. 526; Kuapp H. 127, 170; Kuapp H. 24, 231; Kuowlow W. 389; Knowles C. G. 444; Kooke H. J. 520; Kress J. 346; Kueane M. 71, 305.

Lane S. H. 72, 177, 281, 484, 538; Lafferty J. F. 153, 190; Langstroth L. L. 179; Lawrence D. T. 180; Large M. O. 276; Lay J. E. 389, 443; Larkin C. S. 449; Lancaster W. 453, 577; Lane D. P. 460, 570; Lawrence H. H. 486, 491; Langworthy S. H. 493; Lee F. 178, 231, 287, 381; Leete J. 178; Leonard S. R. 106; Lewis M. 234; Leal G. H. 328; Lewis & Parks. 335; Lewis C. D. 390; Leuch S. W. 400; Lemmon W. W. 441; Leeson T. H. 467; Leyraz A. 490, 491; Leah C. W. 492; Ledbetter F. M. 555; Lipp H. 125; Little B. F. 529; Lincoln L. C. 542; Long E. C. 429; Lomis L. L. 380, 544; Long J. 286; Logan W. S. 229; Lovejoy R. P. 121, 485, 538; Louisiana. 314; Lonsley P. 338; Loofburn W. 446; Lowe E. W. 436; Loveland W. D. 453, 459; Lover C. 579.

Martin W. 25; Mallory S. H. 112; Marsh D. D. 174; Mathaffey J. 224; Marvin J. M. 225; Martin C. C. 226; Marling A. W. 240; Mayo R. G. 284; Marble E. N. 306; Macknam F. L. 323; Martin J. H. 328, 386, 421; Mantor M. T. 338; March H. A. 384; Makinson C. E. 389; Marsh E. H. 460, 523; Manwaring J. M. 490; Martin J. N. 492; Malone W. 593; McCormick J. B. 79; McCord D. A. 110, 217, 448, 566; McQuiston W. H. 178; McConnell L. 129; McGaw T. G. 170; McGlade F. 172, 388; McIntire M. W. 181; McDougall G. P. 212; McNeill J. 224, 590; McDouough M. 223; McRay C. E. 259, 283, 319; McClymonds L. H. 282; McKee J. A. 329; McGee G. H. 336, 441, 546; McCrilliss S. B. 379; McFarridge L. C. 382, 383; McLennan S. D. 391; McKee A. 397; McLenden J. C. P. 494; McNay S. 515; McWhill W. E. 518; McFarland S. C. 605; McClymonds E. H. 591; McKean J. 570; Merrich F. L. 234; Meder A. J. 338; Mead R. L. 346; Melzer J. P. 449; Meilen R. H. 526; Mills A. M. 27; Miller C. (II), 59, 174, 224, 329; Miller C. (O), 431; Miller C. (Jr), 181; Miles C. L. 105, 178, 439; Michael J. 181; Miller A. C. 222; Michener I. 235; Mitchell J. B.

278; Mitchell C R, 287; Minnich C S, 424; Morrisson J. H, 598; Morrison S W, 540, 569, 599; Morris E H, 539; Mohrer A C, 519; Moores F A, 453; Morgan E A, 422, 482; Moody H A, 275; Moyer P, 219; Moore M B, 213; Moore J P, 181, 577; Morton N J, 179; Morton J, 127; Morgan R, 110, 233; Moore St J T, 82, 212; Mores J, 81, 423, 430; Moffett J, Jr, 79, 331; Moores W L, 72; Moore L F, 30; Moore J E, 587; Moosley E C, 67; Moger H L, 473; Montgomery J F, 75, 390; Mobley J E, 204; Mosley N J, 581; Morrill R M, 337; Moffitt J C, 587; Murray J B, 550, 599; Muth-Rasmussen W, 520, 578; Munger H, 78; Munson O R, 120, 233; Muth C F, 587; Murray J W, 232; Murkar W A, 518; Mundhenk L R, 599; Myers A S, 470.

Neikirk D J, 261; Nelson J A, 79, 599; Newell E C, 129, 155; Neff I, 228; Newlove J W, 235; Newman S F, 316; Nelson J A, 432, 549; Nicholson H M, 176, 554. Oatman J, 391; Oiler D S, 431; Oldroyd W, 46, 136, 240, 345; Oliver C, 20; Oren J, 105, 154, 318, 332; Orr E, 385; Osborne J A, 451; Osborn A, 576; Osburn P, 570; Otto H, 605.

Parmelee W, 26, 120; Parker W D, 102, 512, 547; Parker A A, 129; Parker T B, 209; Park J P, 218; Parker Mrs W D, 240; Palmer D D, 242; Paxson B R, 264; Parshall J, 271, 384, 453; Parker M E, 285; Page V, 388; Parker R B, 437; Paddock F S, 599; P Carrie, 395; Pettit S T, 108, 287, 315; Pettit S, 32; Peirce G H, 32, 125, 467; Peck A S, 175; Peters H J, 317, 333, 594; Peters G B, 421; Peabody J L, 443; Perrin C, 512; Pfaltzgraf G, 279; Phelps R H, 420; Phelps W G, 364; Phinney E H, 222; Phillips G, 484; Pickup E, 29; Pickerrill A, 189; Pierce J B, 76; Pierce W O, 210; Pickens J C, 219; Pierce S W, 286; Pierce J E, 486; Plank P E, 231; Polleys F O, 122, 491, 595; Potter A, 31; Potter G H C, 105, 129; Pommert J C, 167; Poppleton O O, 229, 235, 319; Polk E T, 334; Post D, 400; Post W O, 487; Pratt B F, 284, 477; Prudden N A, 327, 467, 472, 518.

Quinn R, 34, 569; Quinby, T M, 75. Raalston, W D, 70; Rand, H L, 180, 569, 591; Ratcliffe, J B, 264; Rau, S, 537; R D J, 269; Ressler, J Jr, 174; Reynolds W, 177; Reed J H, 423; Reynolds J Jr, 484; Replegle G B, 492; Richards T J, 366; Rice S, 232; Rice W H, 230; Riser M, 125; Rice G H, 387; Rives E C, 578; Roseckel G, 531; Robbins D E, 479, 512, 539; Root L C, 418; Root W H, 531; Root W P, 586; Roberts W F, 328; Robinson E A, 317; Roop H, 121, 419; Robinson R, 105, 130, 221; Robb A, 81; Robbins R B, 20, 125, 234, 480; Robertson R, 46; Rothwell T, 114; Rau S, 128; Round T, 365; Rogers T A, 386; Roys W P, 442; Ross J F, 550; Russell J, 34; Rue C H, 122, 363, 370; Rugg D H, 156; Ruddiman W, 169; Ruger W, 227; Runnion L A, 433; Rulison & Simpson, 442; Rummell I, 491; Rumford I B, 540, 545; Rutherford S D, 544.

Sawdy A M, 31; Sayer A J, 119; Salyer J B, 131; Sayles H P, 156; Salisbury E, 173; Salisbury B, 420, 467; Salisbury S W, 475; Saltford W G, 600; Saulsbury F A, 569, 586; Scott J, 599; Schwartz D, 541; Scott M C, 512; Seovell H, 29; Schneider A, 118, 550; Selionton W D, 286; Schafer G A, 520, 528; Seovell & Anderson, 522; Seidel J M, 493; Sevcner C, 443; Seal W T, 31; Sensney D, 167; Seares F H, 338; Seaton L C, 401, 595; Secor E, 542, 589; Shafer G A, 470; Shield W, 467; Shelton A S, 443; Shaw N H, 119, 178; Shimer F A W, 28; Short J E, 73; Shore J, 119; Shirer G R, 173; Shepard N N, 177; Shull J W, 180, 227, 487; Shuck S A, 214, 468, 486; Sherman E, 230; Shaver Dr, 328; Shinton W, 331; Sherrick C, 371, 444; Shull H S, 381; Shipp C C, 391; Shumaker L M, 434, 435, 594, 595; Shedd W H, 527; Shepard T F, 545, 569; Shaw K, 550; Sheldon J, 578; Simpson J A, 8; Simon H A, 57; Simpson C, 68; Simons M, 223; Simpkins J J, 336; Sinsbaugh L E, 381; Simmons J B, 391; Sibley R C, 400; Sibley J W, 603; Silvana G D, 494; Smith H M, 493, 546; Smith D C, 460; Smith F L, 441; Smiley A, 317; Smith M C, 171; Smith J W, 129; Smith H, 103; Smith A S, 27; Smith T, 63, 67; Smith C T, 77, 334, 440, 473; Snyder H H, 161; Soules L S, 79; Spencer H E, 30; Strong D, 286, 482; Stallings L, 327; St John, Z D, 330, 383; Stites G W, 339, 434, 480; Stauffer A F, 442; Stevens S W, 443; Stevens W C, 459; Stoner A, 482; Stenciliff A, 512; Stollard M L, 542; Stoddard J C, 543; Stebs G W, 546; Stevens C A, 600; Stumbaugh M J, 232; Storer S H, 173; Stout P B, 32; Stove E L, 32; St Mary W, 36; Stein J C, 65; Steele O, 67; Stathauer J B, 74; Stoltzfus J, 81; St John L E, 121, 131; Stevenson I E, 156, 442; Steele D F, 181; Steel N C, 234; St Martz W, 279; Suplec N H, 228, 491; Sutton J L, 401; Sweet W O, 172; Sweet D O, 235; Swingle S W, 338; Swingle A A, 549; Spotts J, 156; Spencer D C, 157.

Taber M F, 26, 80; Taylor R C, 73, 119, 125, 483; Taylor W P, 105; Tanner W, 279; Tadlock J S, 335;

Taylor J E, 339; Taylor R, 400, 433; Taylor H M, 467; Taylor J G, 478, 541; Talmon H, 592; Terrell O J, 487; Terry W B, 220; Teague D B, 179; Teitien J, 155; Terrell J S, 117; Terry M A, 74, 130, 483; Terrell L, 26; Thomson Mrs R, 21; Thompson G W, 123, 166, 179; Thomson C, 271, 442; Thompson H B, 327, 444; Thorpe H H, 331; Thomas A L, 400; Thawing C B, 486, 512; Thornburg J H, 550; Tigges A, 231, 287; Tibbets A J, 518; Towson J C, 600; Toney B B, 472; Tower F W, 460; Todd W H, 382; Townsend O H, 323; Touchton R, 123; Townley J H, 11, 33, 173, 174, 229; Trunkun C M, 569; Trimble W M, 79; Train H V, 226, 453, 525; Troyer W, 224; Travis W H, 492; Travis J B, 571; Turner J B, 225; Turner C H, 385; Tuttle C, 442; Turnham T R, 444; Tunncliffe E, 599; Tweedy D H, 493, 512; Taylor J M C, 75.

Ulery D B, 420; Umhols J, 597; Umpleby J H, 207; Underwood P, 109, 128, 590, 570; Utter J W, 33, 600. Vankirk L W, 16, 365; Vandorn T L, 21; Vandorn S W, 512; Vanbuskirk J, 211; Van Meter W S, 230, 487; Van Daman 253; Van Kirk L, 472, 486, 491; Van Voorhes A H, 488; Varner E F, 537; Valentine S, 547; Viellon P L, 427; Vils, 550; Vondorn T L, 224; Vickers W, 80; Vincent E B, 479.

Walcher J E, 79; Wardell F J, 128, 387; Warstler H L, 176, 225, 329, 440, 591; Wait T B, 212; Walker S T, 235; Watt J P, 253, 338, 536; Watkins B G, 234; Walker R K, 433, 589; Waddell G H, 482, 521, 529, 539, 542; Walker B, 492; Ware J A, 512; Washburn D E, 538; Wakefield W, 553; Warner L, 550; Waters M S, 597; Weeks J T, 591; Werner W, 493; Webb J C, 287; Welch L E, 227; Webster D G, 179, 385; Wells J A, 131; Weed A B, 275, 524, 547; Wendeken G, 74; Webber H L, 339; White J N, 494; White F A, 379, 598; White R, 24, 286; White G W, 130; White F C, 233; Whitney C M, 235; Whitcher W H, 275; Whitehead J C, 281; Whiting F A, 376; White H W, 550, 600; Wier R F, 25, 82; Williams M L, 18, 78; Winters F W, 31, 126; Wilson W, 34, 130; Willis G A, 71, 392; Williamson J A, 74; Willard J S, 79; Wilson J S, 120, 135, 335, 605; Wilkin R, 130, 180; Wininger M, 212; Witte J, 215, 312, 385; Wilson G W, 222, 260; Williams M A, 264; Willmarth A W, 280; Willows A G, 338, 379; Williams G L, 390; Williams G W, 400; Wise J B, 441; Winans L W, 444; Wilder F N, 473, 512, 591; Wilson J F, 490; Wilson J A, 490; Willis G S, 492; Williams G F, 493; Willis R, 518; Willy O H, 566, 599; Willard W J, 218; Woodbury B, 72; Wolfenden J L, 57; W O, 58, 86, 87; Wood E Z, 596; Worthen A H & G B, 12; Wolf L B, 33; Woodard J N, 492; Woodson M C, 422; Woodford H, 444; Woolver C M, 491; Wolf W P, 492; Wright F L, 14, 17, 123, 485, 568; Wright G K, 44, 187; Wright C E, 169; Wright D, 390; Wright A I, 443; Wright, F M, 600; W M, 263; W R L, 469.

X Y Z, 290

Yoder S P, 205; York M D, 170, 221, 436; Yoder G J, 128; Young T J, 79; Young S, 37, 291, 396, 423; Young W, 334; Young W M, 380, 442, 548; Young G W, 488.

Index to Illustrations.

Awls	100	House, Wire-cloth	369
Apple-corers	102	Hive-balance	416
Apiary, Allen's	373	Knife, Putty	432
" Martin's	425	Match-box, for Smoker	11
" Hutchinson's	515	Machine for Starters	56
Bakers' Summer Division-board	15	" " " " " " " " " "	56
Boumeyer's Fdn. Mill	90	Mandel, Home-made	366
Bits, Expansive	257	Mailing-cage, Brooks'	108
Brush, to Remove Bees	432	" " " " " " " " " "	154
Chetograph	10, 284	Nailing-box	209
Cover to Chaff Hive	33	Nippers	256
Cartoon	38, 154, 243, 451, 558	Novice and Blue Eyes	398
Cold Chisels	202	Oldroyd's Miter-box	46
Cages, Queen	257	Our Homes	606
" Section	368	Plates for Retailing Honey	46
" McCord's	449	Press for Making Fdn. in Frames	61
Cans, Tin, to Fill Cages	257	Pliers	101, 102
Counter Store	500	Parker's Machine	102
Deane's Simp. Chaff Hive	45	Pocket-rules	100
Dovetailing Machine	189	Punches	202
Extractor, Horning's	274	Roofs for Hives	270
Egg of Queen, Magnified	420	Rakes	388
Files	102	Scales	101
Fdn. Machines, Dunham's	152	Scissors	101
" Cheshire's	309	Sting, Section of	206
" Farn's	312	Smoker, Foster's Bagpipe	206
Frame to Raise Cells	302	Saws	256
Feeder, Park's	218	Tool for Working Among Hives	72
" France's	584	Temp. Hasty's	104
" Gray's	568	Tri-squares	256
" Talman's	592	Tunnel, to Cage Bees	388
Gray's Machine for Making One-Piece Sections	64	Wrenches	10
Honey-pails	46		

OUR "COUNTER STORE."

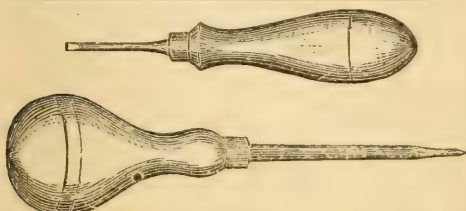
You little know, my friends, what pleasure I have taken in collecting these goods for you, more especially those on the 5c counter, and I have looked forward many a time to handing them over to you, and to the pleasure I should take in hearing your exclamations of surprise at so good an article for such an insignificant sum of money.

USEFUL ARTICLES
FIVE CENTS EACH.

TERMS OF PAYMENT—Strictly Cash With Order.

All Prices Subject to Change without Notice

Articles with no postage marked are unavailable. For postage to Canada see page 3.



2	Awls, Scratch, Wood Handle	45	4 00
3	Awls, Brad, Assorted Sizes	45	4 00
8	Baby wagon 5x7 in., stout	40	3 75
8	Baskets, 1/2 bushel	40	3 75
	" 1/2 "	45	4 25
	" 1/2 "	50	4 75

Just think of it! a Half Bushel Market Basket for five cents.

Bluing, Oldroyd's Liquid, price of box containing 3 dozen bottles, \$1.50.

14	Boot-Jacks, iron, japanned	48	4 50
10	Brackets for flower pots, very pretty	40	3 75
4	Brooms, Whisk	45	4 25
Nice to brush the sawdust off your clothes; a very good brush broom in fact, for 5c.			
5	Broilers for steak or for toasting bread	40	3 50



2	Brushes, Paint, Paste, or Sash	35	3 00
2	Brushes, California Yucca, splendid for brushing bees off combs, etc., etc	40	3 50
4	Cake Turners, all metal, very good	45	4 25
5	Canteens, 1 pt, handy for dinner basket	45	4 00
1	Carpenter's Pencils, Rule on the Side	40	3 75
Carpenter's Compasses, not equal to steel ones, but, like the 5c. scissors, a wonder for the money			
8	Carpenter's Hand Screws	35	3 25
12	Coal Shovels, Wrought Iron	48	4 75
9	Coffee-Pot Stands, bronzed	40	3 75
1	Combs, fine, Rubber	35	4 00
2	" Dressing, good	45	4 00
14	Concentrated Lye in iron cans, good	45	4 25
3	Cork Screws	45	4 00

1	Court Plaster, to be kept in Drawer under Buzz Saw Table	30	2 50
8	Cups, 1 quart, (for only five cents)	48	4 50
5	Cups, Tin, 1 Pint	40	3 50
5	Cups, 1/2 pint (2 for 5c)	20	1 75
6	Curry Combs	45	4 00
4	Dinner Horns, Loud if not Sweet	45	4 25
Just the thing to let the "men folks" know when the "bees are swarming."			

6 Dippers, Tin 1 pint. 45 4 00
A real Serviceable Dipper, and just the thing for getting a cool drink out of the spring, or "old oaken bucket."

2	Dish Covers, Blue Wire Cloth, 6 in	45	4 40
3	Drawer Pulls	30	2 75
9	Dust Pans	45	4 25
Tip-top for keeping the Floor to your Shop Clean, and just the nicest Present for your Little Girls.			

2	Easels Silvered Wire, to Hold Photo's	48	4 75
12	Folding Hat Racks, all Black Walnut, Well Made for the Money	40	3 57

Postage.		[Pr. of 10, of 100]
1	File Handle, self-adjusting (see 10c list)	45 4 25
13	Foot Scrapers	45 4 25
Splendid (for your wife's carpet) during muddy weather.		
8	Fruit Can, Tin, 1 qt.	48 4 25
7	Frying Pans, Good to Carry along when you "go Fishing," or to melt Babbit Metal in, etc.	48 4 75
2	Funnels, Pint	45 4 25
8	Garden Trowels	45 4 25
Would be cheap at 4 Times the Price.		
2	Gimlets	40 3 50
3	Glass Cutters	30 2 50
Just such as have been selling from 25 to 50c each.		
2	Gospel Hymns, Parts I, II or III, as you choose, paper covers.	48 4 50

GLASSWARE.

Berry Dishes, Individual, very pretty	45	4 25
Goblets, Cups with Handles, &c., both large and small, 7 very pretty designs, beautiful for only 5c each	45	4 25
Bird Baths	48	4 50
Cake Plates, 1 1/2 inch in diameter	48	4 50
Egg Cups, individual, little beauties	48	4 50
Pickle Dishes or bowls 8 1/2 in. long	48	4 50
Tumblers, large size for only 5c, and with tin cap for the same 1c more, making a nice receptacle for jelly or honey for 6c	59	5 00
Lamp Chimneys, the same exactly, that are sold elsewhere for 10c	48	4 50
Oval Dish, 7 in	48	4 50
Salts on foot	48	4 50

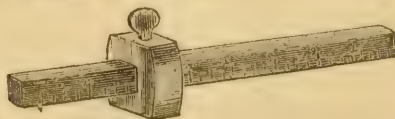
5	Graters, Nutmeg	45	4 00
4	Graters, good, Horseradish, etc	40	3 50
2	Hanging Baskets, Silvered Wire	47	4 50

1 Handkerchiefs, good size, fine, and neatly hemmed. 40 3 75
Ink, "W. O. S." Large 2 oz. Bottles: Price of Box containing 3 dozen Bottles, Assorted Colors, Black, Blue, Violet, with 1 Bottle each of Green and Red, \$1.

2	Ink Powder with directions sufficient to make 1 pt. black ink	40	3 75
3	Kitchen Knives, Fine Steel, metal Handle, labeled "Kitchen Friend"	40	3 50
2	Knives and Forks for Table Use (a Knife and a Fork Are Two)	48	4 75
Good Steel, but rather Plainly handled.			
2	Knives for boys, wonderfully well made for 5c	45	4 25
12	Ladle, Pierced, Tinned Iron	45	4 25
6	Ladle, Solid Tinned Iron	45	4 25

This is dipped in melted tin after it is all finished, making all the joints smooth, strong, and secure, and giving it all a beautiful glossy finish, as nice and bright as silver, and just about as serviceable, if we only think so. At the very small price of 5c, you can get a new one whenever they become worn or rusty.

3	Ladles, Cream, for table use	40	3 50
3	Lamp Shades, Good and Pretty	35	3 00
2	Lamp Wicks best, doz. packages	40	3 75
7	Letter file and Paper weight	45	4 25
2	Magnets, Horse Shoe, 1 1/2 in.	45	4 50
5	Mallets, Wood. Just the nicest thing to Drive Sections Together	45	4 25
2	Marking Brushes	40	3 50



5	Marking Gauges. A very pretty tool for the money	45	4 25
3	Match Boxes, Tin Japanned	40	3 75
Matches, Best Parlor, no Brimstone, no Smell			
7	Match Safes, Bracket work	40	3 75
2	Memorandum Books, Excellent for the Pocket for the apary, 100 pages	40	3 50
2	Mat Chromos, size 7x11 inches	40	3 75

As a general thing, I am not much in favor of Chromos, but when I saw these beautiful pictures, on a dark background, for only 5c, I decided they were a boon to humanity.

2	Measuring Tapes, 36 in. spring, tin case	45	4 00
4	Meat Forks, tinned wire, strong	45	4 25
8	Mincers, or Chopping Knives	45	4 25
4	Mirrors, Wood or Paper Frames, nice		

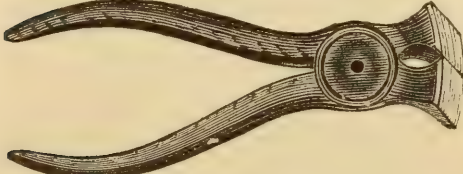
Postage.]

[Pr. of 10, of 100

to bring down a swarm of bees.....	40	3	75
5 Molasses Cups, Tin, Nice for Honey..	48	4	75
5 Mouse Traps to keep in Honey House	35	3	00
5 Mugs, Picnic, plainished.....	45	4	00
Mucilage and Brush.....			

Exactly like those that you pay 25c for. I do not know how it is possible for them to be made so low. Three dozen are packed in a box, and \$1.65 pays for box and all.

2 Needles, the very best I know of in the world (2 papers for 5c).....	23	2	50
4 Nest Eggs, White Glass.....	35	3	00
2 New Testament, in pretty flexible cloth covers.....	48	4	75



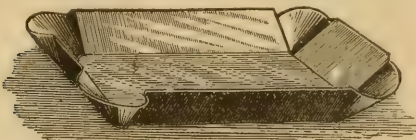
4 Nippers, the Best 5c tool in the whole lot, without question (not to cut with).....	45	4	25
4 Oil for Sewing machines and other light machinery, in handsome bottles.....	45	4	00
2 Oilers, Zinc, Neat, Pretty, and Just Right to Keep All the "Machinery" Well Oiled.....	45	4	00



5 Pails, Tin, 1 Pint.....	50	5	00
Cover and all, and just right for 1½ lb. honey.			
6 Pan, Sauce, Tinned, 1 Pint, with Lip.....	45	4	25
Just as pretty, and just as handy for a variety of purposes as can be, and exactly the thing for making candy for queen cages.			

8 Pans Square 8x12.....	45	4	00
8 Pans, Bread, deep, 2 qt.....	45	4	25
6 Pans, Tin, Cake, Scallop, very pretty.....	45	4	20
5 Pans, 1 Pint, with Handle, very pretty and Handy.....	45	4	25
8 Pans, tin, called 2 qt., really 3 pts.....	45	4	50
5 Pans, Jelly cake, 9 inch.....	45	4	00
6 Pans, Milk, toy, ½ pint, 2 for 5c. Excellent for nail boxes.....	25	2	00
3 Papers of Pins.....	45	4	00
Not first quality, for they are made of iron, as your Magnet will tell you very quickly; but they are useful for some purposes. For best brass pins, see 10c counter.			

11 Paper Weights, Bronze.....	45	4	00
1 Pencils, Lead, The Kind I Prefer (Am. Phonographic).....	45	4	00
2 Pen Holder, with pen, pencil and eraser.....	40	3	75
2 Pen Holder, nickel plated, with pen.....	40	3	75
7 Pen-Racks, pretty and useful.....	42	4	00
Perfumery, Pretty, but not very good.....	45	4	25
4 Pickle Hooks, very neat.....	45	4	00
20 Pitchers, small, brown, very pretty.....	40	3	75

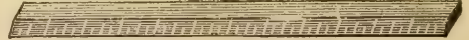


5 Plates, Tin, for Honey, Set of 3, Assorted (Separately 75c, \$1.00, and \$1.75 per hundred).....	40	3	50
25 Plates Pie, yellow ware.....	40	3	75
30 Pudding dishes, yellow ware.....	40	3	75
6 Pliers, flat nose, of Chilled Iron, like the 5c scissors, but excellent for the money.....	45	4	00
10 Potato Masher, either wood, or wire.....	40	3	75
4 Pokers, to stir the fire, Wood Handle.....	45	4	00

Postage.]

[Pr. of 10, of 100

20 Rolling Pins, hard wood, well made ..	45	4	00
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2 Rules, 1 Foot, for School Children....	35	3	00
2 Rules, 36 in., 9 fold, a very handy tool and a source of unfailing amusement for the baby.....	45	4	00
7 Sad Iron Stands.....	35	3	25
4 Salt or Pepper Bottles, glass, white metal top.....	45	4	00
7 Sandpaper, best, assorted packets of 5 sheets.....	40	3	50
3 Scoops, Tin, for Getting Honey out of a Barrel.....	45	4	00
2 Screw-drivers, Sewing Machine, Neat, Wood Handle, fine steel.....	25	2	00
3 Screw-drivers, Metal Handle.....	45	4	00



2 Scissors, Japanned Handles, and Polished Blades.....	45	4	25
Either round point for the pocket, and for little girls, or sharp pointed. Wonderfully well finished for such an insignificant price. Nothing equal to the round points for making a little girl happy, but you must look out for the pieces.			

2 Sewing Silk, on spools.....	40	3	75
3 Shears, a real wonder for 5c.....	45	4	25
5 Shoe Blacking.....	45	4	00
6 Skimmers, tinned, long-handled.....	48	4	50
16 Slates 8x11, good.....	45	4	00
5 Soap, castile, genuine.....	40	3	75
5 Soap, Fancy Cakes, Perfumed Toilet, but good sized cakes, "Boss".....	40	3	75
12 " Blue India, large Cakes and best Soap in the market.....	48	4	75
13 Soap-Cups, to go on edge of tub or Bucket, very handy.....	45	4	00
7 Spice Boxes, Gilt, Labeled Allspice, Nutmeg, Cinnamon, Ginger, &c.....	30	2	50

With Close Fitting Cover, very neat and pretty. These are exactly the size of the pint honey pails; but they have no bail, and are not soldered. The expense of soldering would be but a trifle, and they would then make the cheapest and prettiest package for candied honey known.

1 Sponges, good size.....	40	3	50
1 Spoon, Tea, Britannia (See Table Sp's).....	40	3	50
6 Spoons, Basting, long handled, all metal, very handy in the kitchen.....	48	4	75
4 Spoons, Table, Britannia, almost as nice as silver, but bend pretty easily.....	50	4	75
2 Spoons, Table, Tinned Iron.....	38	3	50
2 " Tea, " (Two for 5c.).....	20	1	75
3 Stands, Silvered Wire, for Hot Dishes.....	45	4	00
6 Stove Polish, Dixon's Best.....	45	4	00
5 Strainer, or wire-skimmer, very handy.....	45	4	25
4 Strainers, to set over bowls.....	40	3	75

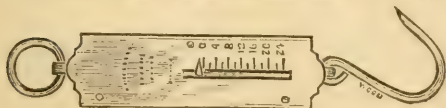
2 Sunday School books, exactly the same reading matter has cost from \$1.25 to \$1.50, very tastily gotten up.....	48	4	75
6 Tack Hammer, Coppered, Iron Handle.....	40	3	50
4 " Wood Handles.....	35	3	00
2 Tacks, Tinned, 3 Sizes of Papers.....	35	3	00
4 Tea Bells, very neat and pretty, nice for the baby and useful besides.....	45	4	50
5 Tea Canisters.....	45	4	25
7 Tin Pot Covers, with ring.....	45	4	50
2 Tooth Brushes, Neat, and Excellent, but rather small.....	45	4	25

2 Towels, tastily fringed and striped, and just the thing, with a 5c wash basin, to "set off" the honey house.....	42	4	00
17 Towel Rollers.....	45	4	00
3 Trellises for flowers, painted green.....	48	4	50
5 Twine Boxes, to hold a Ball of Twine, made of Different Colored Woods.....	48	4	50
5 Twine Balls, ¼ lb. sterling.....	48	4	50
1 Views for Stereoscopes, from all Countries of the World.....	45	4	25
2 Wax Ball, for Work Box, in Shape of Egg, Pear, Plum, etc.....	48	4	75
7 Whet-stones, (Hindoo Oil Stones).....	45	4	25
3 Whips, with whistle for little boys.....	45	4	00

Postage.]		[Pr. of 10, of 100	
6	Wash Basins, Tin, 8 inch.....	45	4 25
If a Bee keeper don't need one, I don't know who does, and these are so Neat, Pretty, and convenient, Only just 5c. Just think of it!			
2	Wire Nails, per Paper, 8 sizes.....	35	3 00
5	Yard Stick, Graduated and numbered as nice as a Pocket rule.....	42	4 00

USEFUL ARTICLES TEN CENTS EACH.

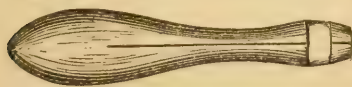
10	Baking tins oblong square heavy.....	70	6 50
5	Balances, Spring, 24lb., Accurate.....	90	8 75



4	Belt Punches in wood handles, good	95	9 00
4	Broom Holders, silvered wire, just right for Whisk Brooms.....	95	9 25
8	Broom Holder, for brooms, mops, or any similar article.....	90	8 50
8	Brooms, Hearth.....	90	8 50
8	Brooms, Whisk, Wood Handles, good	85	8 00
5	Brushes, Clothes, an astonishingly good Brush for a dime.....	85	8 00
4	" Hair.....	90	8 75
2	" Paint, Will do to paint hives, but are rather small.....	90	8 50
6	" Whitewash.....	90	8 50
8	" Shoe.....	85	8 00
8	Brushes, Horse, excellent.....	90	8 50
7	Brushes, scrub, also handy for blacking stoves.....	80	7 75
5	Buggy Whips, good for the money.....	98	9 50
5	Butcher Knives.....	90	8 75
6	Cake Spoon, heavy, with smooth, wood handle, just the thing for sponge cake.....	85	8 00
3	Chamois Skins for Cleaning Cutl'y, &c.....	85	8 00
5	Chisels with Handles, 1/2 inch.....	80	7 75
14	Clothes Lines, 55 ft. long, and have been tested with 300 lbs. weight.....	90	8 50
17	Clothes Racks, Walnut Frame, 4 Hooks.....	90	8 50
7	Coffee Canisters.....	85	8 00
9	Coffee Pots, 1 qt., excellent for the money.....	90	8 50
3	Coin Holder for 5, 10, 25 and 50c.....	85	8 00



5	Cold Chisels, best tempered steel.....	85	8 00
8	Corn Poppers, nice.....	90	8 50
8	Cullenders.....	90	8 50
8	Dippers, tin, 1 qt.....	90	8 50
10	Dust Pans, Japanned, full size.....	95	9 00
12	Envelopes, Bunch of 25, such as we use	75	6 00
12	Eye Protectors. Excellent to keep saw dust and Turning chips out of your eyes.....	90	8 50



2	Files, Double-End. This is price of File only; price of Handle is given in 5 c. Counter.....	95	9 25
2	Files for Cross Cut and Hand Saws.....	85	8 00
13	Foot Scrapers.....	75	7 00
5	Funnels, Quart, Just right to pour Honey.....	85	8 00



2 | OUR 10c AMERICAN KNIFE, EXACT SIZE OF CUT. FINE STEEL BLADE, COCOA WOOD HANDLE | 95 | 9 00
 "Knives came all right, and we have three happy boys."
 R. H. RHODES, Arvada, Colorado.

Postage.]		[Pr. of 10, of 100	
2	Fruit Knives, White Metal Handle, Steel Blade, all Nickel Plated, would have been considered a few years ago very reasonable at 50c.....	98	9 50



8	Garden Trowels, Steel.....	90	8 75
3	Gents' Socks, excellent for the money.....	90	8 50
2	Gospel Hymns, 1, 11, 111, paper cover, words only, or each part bound separately, board cover.....	95	8 75
4	Glass Cutter, with Knife Sharpener, Corkscrew and Can Opener.....	95	9 00
	Glue, Peter Cooper's, Liquid, with Brush.....	90	8 00

GLASSWARE.

	Glass Dish, for "Honey Posies".....	80	7 50
	Glass Dish, with Glass Cover.....	80	7 50
Just right for a 1 lb. Section of Comb Honey. Same for Canded Honey, same price.			
	Glass Pitcher, Small, for Liquid Extracted Honey.....	80	7 50

The above four pieces of Glass Ware were made for Butter Dish, Sugar Bowl, Cream Pitcher, and Spoon Holder, but I have "confiscated" them for Bee-Keepers, as you see.

4	Hammers, Small, for Nails.....	65	6 00
5	" Magnetic.....	90	8 50
16	" Full Size.....	95	9 00
10	Hatchets, Bronzed, Geo. Washington.....	90	8 50
1	Ink Powder for Cheirograph, best.....	85	8 00
14	Knife Trays of wood, make a splendid nail box.....	98	9 50
9	Ladles, same as on 5c counter, but Larger and Heavier.....	80	7 50
1	Lead Pencils, red and blue, large, excellent for marking slates to hives.....	65	6 00
8	Lunch Box, Tin, Japanned.....	95	9 25
3	Magnets, Horse Shoe, 3 in.....	96	9 00
A beautiful Scientific Toy, formerly sold as high as 50c. These are Nicely Finished, and Very Powerful; be careful not to let them touch WATCHES.			
A customer writes: "The magnets attract all the little folks, and some big ones too. I want you to send me a half-dozen." H. H. FOX.			
Tribulation, Mo., Feb. 25, 1880.			
10	Mallets, Wood, excellent.....	85	8 00
13	Match safes, double, pretty and useful, Bronzed iron.....	85	8 00
2	Measuring Tapes, Spring, in Brass case, 36 in.....	75	7 00

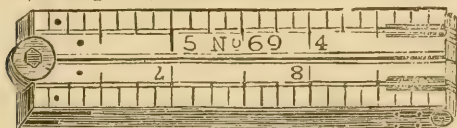


12	Mincers or Chopping Knives, steel.....	85	8 00
	Mirrors, in Papier-mache Frames.....	85	8 00
10	Molasses Cups, Japanned, Nice for Honey.....	95	9 00
2	Napkins, excellent for 10c.....	85	8 00
7	Nut Crackers, stout, will crack Hickory nuts.....	95	9 00
2	Nut Pick, all Nickel, very pretty.....	95	9 00
	Oil for Sewing Machines.....	90	8 50
The Very Best that Can be Obtained, 4 oz. bottles.			
8	Oil Cans, 1 quart.....	98	9 50
5	Oilers, Zinc, Spring Bottom.....	60	8 75
2	Our Homes, Part I.....	80	7 00
7	Padlock, late improved, 2 keys.....	90	8 50

Postage.]		[Pr. of 10, of 100
10	Pail, Tin with Cover, 2 Quart.....	97 9 50
12	" " no cover, 4 quart.....	95 9 00
10	Pans, Bread, shallow and nice.....	85 8 00
6	Pans, (or basin) deep, 3 quart.....	90 8 00
10	Pans, Bread, deep and square.....	85 8 00
6	Pans Stew, very nice, 1 qt with handle	85 8 00
9	Pans, Tin 1 pint, 3 for 10c. Very pretty and very useful.....	28 2 50
10	Pans, Tin, Cake, Scallop, 10 inch.....	95 9 00
7	Pans, Tin, Plain or Milk, 4 qt.....	95 9 00
Just think of it, a fair size, very pretty milk pan, for 10c.		
15	Paper Weight, Bronze.....	75 7 00
3	Packets of Pins, <i>best quality</i>	80 7 50
4	Pocket Levels, to be Put on a Square.....	85 8 00
11	Potato Masher, Large.....	55 5 00



3	Prick Punches, best tempered steel.....	85 8 00
2	Purses, first rate for specie.....	85 8 00
6	Quart Measure, Tin, with lip.....	95 9 00
13	Rat Traps, a regular neck breaker.....	80 7 75
24	Rolling Pins, Revolving Handle.....	75 7 00



2	Rule, 1 Foot, Box-wood, Pocket.....	90 8 50
6	Salts, glass, large.....	80 7 50
6	School Bags, or satchels, sea grass.....	85 8 00
2	Scissors, same as 5c, but larger.....	75 7 00
10	Scoops, Tin, for "scooping" honey, seeds, flour, etc., 1 qt.....	85 7 50
2	Screw Drivers, Wood Handles, Strong and Nice, 7½ inches Long.....	90 8 50
3	Screw Driver, metal Handle, nickel Plated, small.....	95 9 00
7	Shears, 9½ inches, <i>excellent</i> for 10c.....	85 8 00
6	Sieves, in Wood Frame, 10½ in. Round	85 8 00
3	Soap Stand, Silvered Wire.....	90 8 50
2	Spectacles, any age, wonderful for 10c	80 7 50
5	Spoons, Tea, German Silver.....	95 9 00
2	Stands, Tea Pot, Silvered Wire.....	85 7 50
11	Steak Pounders, turned of wood.....	65 6 00
3	Steels for Sharpening Knives, <i>good</i>	85 8 00
4	Straw Cuffs, to keep your shirt sleeves clean when working in the Honey.....	65 6 00
4	Suspenders, Excellent for the money.....	90 9 50



5	Tack Claws, Polished Steel, Enameled Handles.....	95 9 00
2	Tooth Brushes, <i>good quality</i>	85 8 00
8	Tooth Picks, wooden, per box of 1000	80 7 00
4	Towels, same as 5c ones but larger and better.....	90 8 50
2	Tweczers, watchmakers', 3 different kinds; exceedingly convenient and useful for many purposes.....	95 85 00
2	Twine Cutter, to screw on your counter. Very handy for Clerks and Merchants.....	85 8 00
10	Walters, Plain, Japanned, and handy because they are small.....	95 9 00
10	Wash Basins, 10 in., pretty and useful	95 9 00
23	Whetstones.....	85 8 00
2	Willow Work Baskets, 5 inch.....	60 5 50
21	Wooden Bowls, 1 foot wide.....	85 8 00

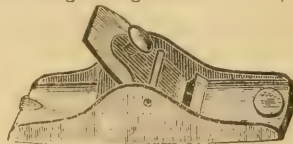
OUR "15 CENT" COUNTER.

2	Belt Punches, hollow, fine steel.....	1 25 10 00
2	Brooms, full size and very good.....	1 40 13 50
5	Call Bells for School Teachers.....	1 40 13 50
17	Coal Shovels, with long handles.....	1 40 12 30
9	Corn Poppers, large and roomy.....	1 25 12 00
3	Files for circular saws, 5 in. (see cut on page 13).....	1 45 14 00
4	File, Double-ender, 10 inch, (no handle; handle 10c).....	1 25 12 00
3	Gloves, ladies, cotton lined, excellent for the money.....	1 40 13 00
2	Gospel Hymns, I, II and III in one words only, board covers.....	1 45 12 50
8	Hammers, Magnetic, all metal handle, a beautiful tool.....	1 25 12 00

Postage.]		[Pr. of 10, of 100
17	Hammers Carpenter's, Adze eye, rather small but nicely finished....	1 30 12 00
19	Hammers, Shoe nice, also excellent for nut cracking.....	1 40 12 50
3	Knives and Forks for children, very pretty.....	85 7 50
2	Knives, American "Barlow," 1 inch longer than the 10c knife, and the blade is hand forged <i>Razor Steel</i>	1 25 12 00
1	Knives, Ladies, Ivory handle, 1 blade	1 25 12 00
	Lamps, large, glass, on foot, no burner or chimney.....	1 20 11 00
3	Lamp Burners, Venus, for straight chimney, No. 1.....	1 20 11 00
2	Mittens for the baby, all wool, and all colors, regular little beauties.....	1 10 10 00
7	Molasses Cups, Crystallized, splendid for the price.....	1 30 12 00
2	Needles, London Needle Co's best, including large sizes and for all purposes, Package of six papers....	1 40 13 00
12	Oil Cans, 2 qt., real nice.....	1 50 15 00
12	Pans, Milk 8 qt., a good large pan....	1 40 13 50
32	Pails, wood, ½ size, Painted, 2 Hoops	1 30 12 00
19	Paper Weight, Shepherd dog, pretty	1 25 12 00
3	Perfumery Wencke's genuine.....	1 30 12 00
4	Putty Knives, like one on 25c counter but plainer finish.....	1 20 11 00
2	Rules, 2 Foot, Pocket, Box-wood....	1 25 12 00
3	Scissors solid steel, handle and blade	1 40 13 00
6	Screw Driver, 10½ in. long.....	1 20 11 00
6	Sieves, in wood Frames, Wire, round	1 20 12 00
5	Thermometers, Best, 7 inch.....	1 30 12 50
10	Twine, Strong Flax, ½ lb. Balls.....	1 30 12 50
62	Wash Boards Serpentine Zinc a <i>good article</i> , that usually sell for 25c. or higher.....	1 30 12 00



7 | Weeding Hook, Tinned to Prevent Rusting, a most convenient Tool for working among Plants..... 1 20 11 00



5 | OUR 15 C. PLANE..... 1 40 13 50
At first glance you might take it for a toy plane; but, if you try it on a board, you will find it is a plane in reality. They will sharpen a lead pencil beautifully, trim up a wood cut or electrottype, take the corners off from a rough box, reduce the width of a board, and do it all in a workmanlike and finished manner; and when they need sharpening, the bit is taken out or adjusted securely, by simply turning a single screw with the thumb and finger.

Twenty-Five Cent Counter.

8	Bell, Dinner, Brass.....	2 10 20 00
5	Bible, nice type, neatly bound.....	2 40 23 00



11	Box Scraper, Excellent for Clearing Bottom Boards, Etc., from Wax and Propolis.....	2 25 20 00
18	Braces, Carpenters, with set screw Brooms, best quality.....	2 10 20 00
6	Brushes, Paint, very fair for Painting Bee Hives.....	2 30 22 50
	" " Whitewash.....	2 25 20 00
7	" " Whitewash.....	2 25 21 00

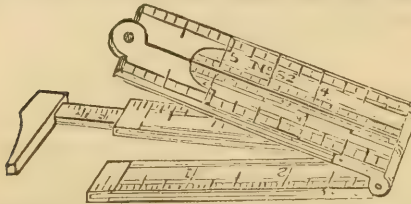
Postage.]

[Pr. of 10, of 100

- but with rounded ends, and G. S. shield in handle..... 3 25 | 31 00
- 28 | Pails, tin, 12-quart, good..... 3 00 | 28 00
- 2 | Scissors, 4 inches long..... 2 75 | 25 00
- Handles as well as blades of Finest Quality of English Steel, and Beautifully Finished.
- 2 | Scissors, Lace..... 2 75 | 25 00
- Same make as above. These are the most Delicately Pointed scissors I have ever found, and are the best thing to be obtained for Clipping Queens'.
- 10 | Shears, Fine, Solid Steel Blades..... 3 00 | 28 00
- 15 | Sieves, Metal Rim; this is also used for Wax Extractor, see Dish Pan in 25c list..... 3 25 | 30 00

FIFTY CENT COUNTER.

- 8 | Brushes, paint, best for hive-painting..... 4 50 | 42 00
- 25 | Call Bell, Duck pattern, very unique..... 4 50 | 44 00



- 3 | Caliper Rule, beautifully finished, one foot, 4 fold, brass lined..... 4 25 | 40 00
- 16 | Carpenter's Level, and Plumb combined, a most beautiful tool, Imitation Rosewood, 14 in. long, splendid for leveling up hives, etc..... 4 50 | 40 00
- 27 | Carpenter's Squ's, good, but not steel..... 4 50 | 44 00
- 25 | Braces, pat. grip, 8 inch..... 4 50 | 42 00
- 41 | Cheiograph, Complete, 5 3/4 x 8 3/4, Ink, Pad, &c. See page 10, Jan. No. 4 50 | 40 00
- 34 | Coal Hods, japanned, good..... 4 50 | 40 00
- 34 | Coe's pattern Wrench, 12 in. malleable Garden Rakes, malleable iron, with iron braces..... 4 25 | 40 00
- 6 | Gospel Hymns, I, II, and III, words and music, paper covers..... 4 75 | 43 75
- The same in board cover, 10c extra each book.
- 11 | Hammer, Fine Steel, Finely Finished, although rather small, it is the very best Hammer that can be bought..... 4 25 | 40 00
- 10 | Hand Drill, geared, with chuck and 6 drills, splendid tool..... 3 50 | 32 00



- 20 | Hand Saws, 18 inch; Very Neat, Made of Fine steel..... 4 00 | 37 50
- 33 | Hatchets, Good Steel, well finished. 4 00 | 35 00
- Hoes, fine steel, riveted blades..... 3 50 | 33 00
- Lanterns, for kerosene, good, & nice..... 4 50 | 44 00
- 5 | Magnifiers, 2 Lenses, on 3 brass feet..... 4 50 | 42 50
- 10 | Measuring Tapes, 50 Feet, Fine..... 4 25 | 40 00
- 2 | " 36 in., Spring with stop, Nickel Case, very Handsome, a beautiful present for a Lady..... 3 50 | 30 00
- 1 | Morton's Gold Pen, "Magic," no case..... 4 25 | 40 00
- For case see 25 and 75c counter.
- 9 | Paper Weights, Glass, (4 Cannon Balls)..... 4 00 | 37 50
- 16 | Pruning, or Sheep-toe Shears, Excellent..... 4 50 | 44 00



- 25 | OUR 50c IRON PLANE..... 4 25 | 40 00
- This is a beautiful and useful, full sized plane.
- 3 | Scissors, 5 in. long, English make, and best English Steel, very beautiful..... 4 00 | 37 50
- 2 | Scissors, Button Hole..... 4 00 | 37 50

Postage.]

[Pr. of 10, of 100

- Same size and same make as above, with screw adjustment for Any Sized Hole.
- 16 | Screw Driver, 20 inches long..... 3 75 | 35 00
- This is so large and strong, that in an emergency, it will do nicely for a small handspike or crowbar.
- Shovels, for Boys, Steel..... 4 00 | 38 00
- " Men..... 4 50 | 44 00
- 20 | Sickles, or Grass Hooks, Fine Steel Beautifully Finished..... 4 00 | 35 00
- 2 | Silk Handkerchiefs, real silk and good size..... 4 50 | 40 00
- 12 | Spring Balance, with Tin Dish, Suspended by Three Chains, 24 lbs..... 4 00 | 35 00
- 15 | Stereoscopes, for views see 5 cent counter..... 4 75 | 45 00
- Tea-Kettle, Copper Bottomed..... 4 00 | 39 00
- 26 | Vises, Iron, Parallel Jaws, 1 1/2 in. wide..... 4 75 | 45 00
- To screw on a Table or bench, Very handy.
- 22 | Waiter, 18 inch, japanned..... 4 25 | 40 00
- Wooden Bowls, 18 inch..... 4 25 | 40 00

Seventy-Five Cent Counter.

- Basket, Oak Splint, 2 Bushel..... 6 50 | 60 00
- 18 | Boynton's Lightning Pruning-Saws, 20 in., Rip-saw on one side, and Cut-off on the other, an excellent saw for any purpose..... 6 50 | 60 00
- 11 | Call-Bells, in bronze, very pretty..... 6 00 | 55 00
- 27 | Carpenters' Brace, Patent Grip, 10 inch Sweep..... 6 00 | 58 00
- 64 | Cheiograph, Foolscap Size, 8 1/2 x 12 1/2. With this size we give a 2 oz. Bottle of Best Ink. Ink not included if sent by mail..... 7 00 | 60 00
- Hammers, best steel, adze eye..... 6 00 | 55 00
- Lanterns, tubular, with guards..... 7 50 | 65 00
- 2 | Morton's Gold Pen in Silver plated case and pencil..... 6 50 | 60 00



- 5 | Pliers and Wire Shears combined..... 6 50 | 60 00
- This is a most useful tool, well made, and of excellent steel and temper.
- 8 | Shears, 9 inch, Solid Steel Blade, Nickel Plated..... 6 75 | 65 00
- This is the best and prettiest Pair of Shears, I think, I ever saw; they would be beautiful for a present for your wife or mother, or any other lady.
- 4 | Scissors, Large size, English make, Finest English Steel Handles and Blades: 7 in. long..... 6 00 | 55 00
- 2 | Silk Handkerchiefs, Beautiful..... 7 00 | 65 00

ONE DOLLAR COUNTER.

- 12 | A B C Book in Paper (Post paid at \$1.00 each) For less than 10c see advertisement in GLEANINGS..... 6 30 | 60 00
- 15 | Cloth bound, 25c more, each book.
- Axe fine steel, extramake and finish..... 9 50 | 92 00
- Basket, Oak Splint, 3 Bushels..... 8 50 | 80 00



- 45 | Carpenter's Saw, with 24 in. Square and Rule, Straight Edge, and Scratch Awl, Disston's make..... 9 00 | 85 00
- 3 | Morton's Gold Pen in Gold Plated Telescopic Holder..... 8 75 | 80 00
- 20 | Nippers, best cast steel, similar to those used by blacksmiths, but finer finish..... 8 50 | 80 00
- 2 | Silk Handkerchiefs, large and exceedingly pretty..... 8 50 | 80 00
- 2 | Spoons, Tea 3 oz., Solid Coin Silver, with your Name or Initials neatly Engraved thereon..... 9 25 | 87 50
- At this rate a set of 6, will cost \$5.45. If you take them without engraving, \$5.00 only.
- 28 | Umbrella, strong and serviceable..... 8 50 | 80 00
- For 10c extra, your name plainly painted on inside.

[See Miscellaneous Counter, p. 564.]

